

IB9TF-15 Agentic AI for Finance

26/27

Department

Warwick Business School

Level

Taught Postgraduate Level

Module leader

Michael Mortenson

Credit value

15

Module duration

2 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

ChatGPT and large language models have had massive impact on business practice in just a few years. However, the second wave of these technologies, their development and deployment as specialised automation tools (agents) promises to be significantly more impactful and transformative. The practice of Agentic AI comprises of the training methods, system architectures, information systems that support the system, deployment methods and the ethical & strategic choices required to make AI agents succeed in business deployments. This module will consider all of these areas, specifically in reference to the finance sector. In doing so, participants will gain experience on all the key aspects of Agentic AI as one of the key financial technologies of our time - from technical development to strategic implementation.

Module aims

This module incorporates the full range of topics relevant to Agentic AI developments in finance, including:

- Applications and use-cases for agent automation in finance;
- Process analysis and re-engineering methods;
- How Agentic AI system should be designed and architected for financial applications;
- Training, fine-tuning and information/memory retrieval systems;

Supervision, human-in-the-loop and governance of Agentic AI systems;
Managing, scaling and integrating Agentic AI within a resource based view of the business.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

The module will cover the following topics:

AI from chatbots to agents
Agentic AI applications in finance
Business process analysis, re-engineering and optimisation
Agent training and fine-tuning methods
Agentic AI environments: Tools and Module Context Protocol
Agentic AI environments: Information retrieval and memory
Agentic AI environments: Supervision, human-in-the-loop and governance
Agentic AI in finance: Case studies
Ethics and strategy in Agentic AI

Learning outcomes

By the end of the module, students should be able to:

- Develop a sophisticated and practical understanding of Agentic AI concepts, use cases and risks.
- Engineer and optimise business processes as both human/agent collaboration or fully automated Agentic AI systems.
- Critically analyse business use cases.
- Critically analyse architectural design choices.
- Critically evaluate Agentic AI use-cases and applications with key consideration of ethical, strategic and operational dimensions.

Indicative reading list

[Reading lists can be found in Talis](#)

Subject specific skills

Design cutting edge Agentic AI environments, incorporating information resources, tools and supervision methods.

Demonstrate programming and software development skills.

Demonstrate business process design and optimisation skills

Deploy agent system design, implementation and monitoring.

Apply the above in the finance domain.

Transferable skills

Communication skills.
Problem solving.
Team working skills.

Study

Study time

Type	Required
Lectures	9 sessions of 1 hour (6%)
Other activity	18 hours (12%)
Private study	49 hours (33%)
Assessment	74 hours (49%)
Total	150 hours

Private study description

Private study to include preparation for lectures/workshops and own reading

Other activity description

9x2 hrs F2F workshops

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group A

Assessment component	Weighting	Study time	Eligible for self-certification
3,000 word analysis of a key area of Agentic AI in finance (written discussion and code)	80%	59 hours	Yes (extension)

	Weighting	Study time	Eligible for self-certification
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Reassessment component is the same

Assessment component

10 minute group video presentation	20%	15 hours	No
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Reassessment component

1,000 agent system design report			Yes (extension)
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Feedback on assessment

Written feedback for both components.

Availability

Courses

This module is Optional for:

- Year 1 of TIBS-H60Z MSc Financial Technology