



Course and Examination Fact Sheet: Spring Semester 2025

8,151: Asset Allocation and Investment Strategy

ECTS credits: 4

Overview examination/s

(binding regulations see below)

decentral - Written examination, Analog, Individual work individual grade (40%, 90 mins.)

Examination time: Term time

decentral - Written work, Digital, Group work group grade (20%)

Examination time: Term time

decentral - Presentation, Analog, Group work group grade (10%)

Examination time: Term time

decentral - Written work, Digital, Group work group grade (30%)

Examination time: Term time

Attached courses

Timetable -- Language -- Lecturer

[8,151,1.00 Asset Allocation and Investment Strategy](#) -- English -- [Gao Can](#)

Course information

Course prerequisites

Working knowledge of all materials covered in the three compulsory courses of MBF program at HSG, and undergraduate maths in economics or finance program. Some coding skills would be beneficial, no preference for language. (More details in the supplementary information.)

Learning objectives

The course is targeted to students with an interest in asset management and hedge funds.

Students will gain some working knowledge of modern portfolio theory, no-arbitrage theory, and the predictability of risky assets. Having completed this course, students will know the most common risk factors in different asset classes such as stocks, bonds, FX exchange rates. Students will understand how the gap between the market prices of assets and the model prices could lead to new perspectives on the relationship between trading results and finance theory.

Course content

1. Frameworks
 - modern portfolio theory, alternative criterias
 - no-arbitrage pricing
 - predictability
 - some simple numerical optimisations
2. Applications
 - Stock
 - Bond
 - FX exchange rate
 - Volatility (if time allows)

Course structure and indications of the learning and teaching design



Total 12 weeks. Lectures in Week 1-10 (term break in-between), review session and Q&A in week 11, written exam in week 12.

Two assignments (30%+30%) and a final written exam (close book, 40%).

Both assignments are group work and group grades:

- The first assignment is a problem set where students will write some codes to do empirical analysis with data and submit their answers in PDF/Word files.
- The second assignment is a mini-project where students would work in groups to sketch a trading strategy, present their pitches in class (or in format of video clips if there is a time limit), and submit a written report (no more than 8 pages).
 - The presentation part takes 10% (no grading, complete or incomplete) of final score.
 - The report would be sent to industrial experts for feedback (e.g. Man Group, Schrodgers Asset Management, JP Morgan).

Note: In 2024 the assignments took 40% of the final score, now it is adjusted to 60% reflecting previous students feedback.

Course literature

Mainly the lecture slides, my own notes (for some earlier lectures), and some academic papers (for later lectures). All would be available from StudyNet during the course.

The following books are supplementary readings:

- "Financial Decisions and Markets: A Course in Asset Pricing", by *John Campbell, Princeton University Press.*
- "Investing Amid Low Expected Returns: Making the Most When Markets Offer the Least", by *Antti Ilmanen, Wiley.*
- "The Fama Portfolio: Selected Papers of Eugene F. Fama", edited by *John H. Cochrane and Tobias J. Moskowitz, University of Chicago Press.*
- "Neoclassical Finance", by *Stephen A. Ross, Princeton University Press.*
- "Quantitative Financial Economics: Stocks, Bonds, and Foreign Exchange", by *Keith Cuthbertson and Dirk Nitzsche.*

Additional course information

Below is a list of the most relevant concepts that I assume you have some knowledge of before taking this course:

Econometrics and Maths: Probability and Statistics, Basic Linear Algebra, Undergraduate Calculus and Multivariate Calculus, Time Series Analysis.

Finance and Economics: CAPM, Efficient Market Hypothesis, Brownian Motions, Black-Scholes Formula, Expectation Hypothesis, Utility function, Risk Preferences, Budget Constraints, No Arbitrage Theory, Risk-neutral measure.

Note: I will not revise the above concepts in class. Some of the concepts might be reviewed very briefly, but you should have studied them before. If you are interested, but not sure whether your background fits this course, please consult with me before bidding.

Examination information

Examination sub part/s

1. Examination sub part (1/4)

Examination modalities

Examination type	Written examination
Responsible for organisation	decentral
Examination form	Written exam



Examination mode	Analog
Time of examination	Term time
Examination execution	Synchronous
Examination location	On Campus
Grading type	Individual work individual grade
Weighting	40%
Duration	90 mins.

Examination languages

Question language: English

Answer language: English

Remark

A practice exam (with answers) will be provided.

Examination-aid rule

Closed Book

The use of aids is prohibited as a matter of principle, with the exception of pocket calculator models of the Texas Instruments TI-30 series and, in case of non-language exams, bilingual dictionaries without any handwritten notes. Any other aids that are admissible must be explicitly listed by faculty members in the paragraph entitled "Supplementary aids" of the course and examination fact sheet; this list is exhaustive.

Procuring any aids, as well as ensuring their working order, is the exclusive responsibility of students.

Supplementary aids

NA

2. Examination sub part (2/4)

Examination modalities

Examination type	Written work
Responsible for organisation	decentral
Examination form	Written work
Examination mode	Digital
Time of examination	Term time
Examination execution	Asynchronous
Examination location	On Campus
Grading type	Group work group grade
Weighting	20%
Duration	--

Examination languages

Question language: English

Answer language: English

Remark

2nd Assignment Component: Written Report

Examination-aid rule

Free aids provision

Basically, students are free to choose aids. Any restrictions are defined by the faculty members in charge of the examination under supplementary aids.



Supplementary aids

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3. Examination sub part (3/4)

Examination modalities

Examination type	Presentation
Responsible for organisation	decentral
Examination form	Oral examination
Examination mode	Analog
Time of examination	Term time
Examination execution	Asynchronous
Examination location	On Campus
Grading type	Group work group grade
Weighting	10%
Duration	--

Examination languages

Question language: English
Answer language: English

Remark

2nd Assignment Component: Group Presentation

Examination-aid rule

Free aids provision

Basically, students are free to choose aids. Any restrictions are defined by the faculty members in charge of the examination under supplementary aids.

Supplementary aids

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4. Examination sub part (4/4)

Examination modalities

Examination type	Written work
Responsible for organisation	decentral
Examination form	Written work
Examination mode	Digital
Time of examination	Term time
Examination execution	Asynchronous
Examination location	On Campus
Grading type	Group work group grade
Weighting	30%
Duration	--

Examination languages

Question language: English
Answer language: English

Remark

1st Assignment (empirical problem sets)

Examination-aid rule



Free aids provision

Basically, students are free to choose aids. Any restrictions are defined by the faculty members in charge of the examination under supplementary aids.

Supplementary aids

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Examination content

All material covered in class (including material covered in a possible guest lecture) as well as the material distributed to the students (e.g. lecture notes, case studies, practice exams) is relevant for the exam. For more detailed information, please refer to the syllabus which will be uploaded to StudyNet.

Examination relevant literature

See syllabus.

Please note

Please note that only this fact sheet and the examination schedule published at the time of bidding are binding and takes precedence over other information, such as information on StudyNet (Canvas), on lecturers' websites and information in lectures etc.

Any references and links to third-party content within the fact sheet are only of a supplementary, informative nature and lie outside the area of responsibility of the University of St.Gallen.

Documents and materials are only relevant for central examinations if they are available by the end of the lecture period (CW21) at the latest. In the case of centrally organised mid-term examinations, the documents and materials up to CW 13 (Monday, 25 March 2025) are relevant for testing.

Binding nature of the fact sheets:

- Course information as well as examination date (organised centrally/decentrally) and form of examination: from bidding start in CW 04 (Thursday, 23 January 2025);
- Examination information (supplementary aids, examination contents, examination literature) for decentralised examinations: in CW 12 (Monday, 17 March 2025);
- Examination information (supplementary aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 14 (Monday, 31 March 2025);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised examinations: two weeks before ending with de-registration period in CW 15 (Monday, 07 April 2025).