NBIMTeach

Norges Bank Investment Management

About

Norges Bank Investment Management (NBIM) seeks to contribute academically to courses at educational institutions with a practical perspective on finance, technology and responsible investment topics. This catalogue outlines possible guest lecture topics. Norges Bank Investment Management is committed to contribute with topical experts, high quality guest lectures and to do our outmost to engage and inspire the students.

Lectures

Asset management

Asset allocation in practice

Active portfolio management

Application of data science to Investment Management

Trading in equity markets

Risk management in practice

Derivative markets and asset management

Responsible investment

Responsible investment at Norges Bank Investment Management

Assessing the sustainability of a company

Owning a small part of a company in a shareholder democracy

Technology

Applied technology in a business context (series)

Cloud technology

Solution architecture

Asset management

Asset allocation in practice

This lecture gives broad insights into the investment strategy of Norges Bank Investment Management, how it has changed over time and why. Students will gain a broad overview of the fund and its investment strategy, the theoretical underpinnings of the investment strategy and the fund's role in the Norwegian economy more generally. The lecture will end with a deep dive into a more specialised topic that can tailored to the particular interests of the class. The lecture suits Bachelor's and Master's students studying economics or finance. A rudimentary understanding of asset pricing (e.g. CAPM) is considered useful.

Active portfolio management

This lecture seeks to give a broad insight into the reality of how we undertake our roles as portfolio managers. Students will gain a broad overview of the asset management industry, as well as an understanding of the role of active management and how portfolio managers approach this in practice. The lecture will emphasise a broad framework by which portfolio managers organise their duties, seek to develop investment ideas and construct a portfolio around these ideas. It will also emphasise learnings and challenges, including the psychological or human aspect to the role, the theory vs. reality of investing, and common mistakes across portfolio managers. Students will also have the opportunity to engage with portfolio managers through Q&A.
The lecture suits both Bachelor's and Master's students.

Applications of data science to investment management

This is a practical session on the use of data and modelling approaches in fund management. Students will get an overview of data science techniques including supervised and unsupervised learning, and discuss process and design features in developing robust models for data analytics. The lecture will also demonstrate applications of data science and machine learning techniques in finance, including pitfalls of machine learning. The lecture suits Bachelor's and Master's students in any quantitative discipline.

Trading in equity markets

The aim of this lecture is to provide insight into trading operations at Norges Bank Investment Management. The students will gain insights into trading in equity markets and dynamics and characteristics of the markets. We will explain how various participants like institutional managers, high frequency traders and retail clients trade and shape equity markets today. The lecture suits Bachelor and Masters' students studying finance, economics, mathematics, statistics, IT and other similar courses. No prior knowledge of the topic is required.

Risk management in practice

The lecture on Risk Management in Practice is about how to estimate volatility, tail risk measures and how to perform scenario analysis on large real-world portfolios with thousands of securities. The lecture will provide an overview over key modelling choices and their implications. Students will get an overview over popular risk models and learn advantages and disadvantages of popular techniques from a practitioner's perspective. The lecture reviews the field broadly and focuses on a range of models, giving practical examples throughout.
The lecture suits entry level coursework in econometrics and capital markets and can be tailored both to beginner and more advanced audiences.

Derivative markets and asset management

The aim of the lecture is to give students an overview on use of derivatives in asset management. It will cover topics including option-implied vs empirical return distributions, volatility-based risk premia, link between option strategies and dynamic investment strategies, and use of option signals in portfolio and risk management. The lecture suits final year Bachelor's and Master's students with exposure to finance and financial economics.

Responsible investment

Guest lecture

Responsible investment at Norges Bank Investment Management

Norges Bank Investment Management invests the Government Pension Fund Global on behalf of the Norwegian people. There is a clear expectation that we should invest responsibly, but what does that mean? How is the fund affected by issues such as climate change and diversity? Is it better to try to influence companies to reduce risks or promote value creation, or just to avoid investing in certain companies altogether? This lecture will present how we work with responsible investment through standard-setting, ownership and sustainable investing. The students will reflect on emerging trends in responsible investment in the context and opportunities of a large, diversified, global, financial investor in listed companies. Climate change will be used as an example throughout, showing how we work to influence market outcomes and individual companies, and adapt our portfolio. The lecture suits third year Bachelor's and Master's students.

Guest lecture

Assessing the sustainability of a company

As part of its responsible investment, Norges Bank Investment Management has published expectations of companies on a range of social and environmental topics, such as climate change and human rights. Understanding to what extent companies follow these expectations is important for us to prioritize and inform about our dialogues with companies. Therefore, every year we perform more than 4,000 detailed assessments of companies' public disclosures on sustainability topics. This course will illustrate which questions such an assessment ask, how data is collected and aggregated (including use of machine-learning techniques), how the data can be used to track the results of dialogues, and how companies have changed their approach to sustainability reporting over time. The students will learn concrete examples of how to assess the sustainability of a listed company. The lecture suits third-year Bachelor's and Master's students.

Guest lecture

Owning a small part of a company in a shareholder democracy

The fund is invested in a small part of more than 9,000 companies. Every year, we participate in around 12,000 shareholder meetings, casting our votes on who should sit on the board and approving fundamental changes at the companies. Deciding what to vote on the more than 120,000 individual resolutions requires a principled approach, and at Norges Bank Investment Management we have over time developed detailed positions and guidelines to help our voting. It is also supported by large datasets and technological solutions that allow for automated voting at shareholder meetings all around the world. This course will present some common dilemmas we face when voting and allow the students to try out voting for themselves. In addition to approving board members, executive pay and capital issuances, we will cover voting at shareholder resolutions on sustainability topics. The students will gain insights in corporate governance principles and how a minority investor can use voting rights to safeguard the long-term interest of the fund. The lecture suits Master's students with basic understanding of investments and corporate finance.

Technology

Applied technology in a business context

Digital strategy and operations are the beating heart of an organisation and enable new business models, services, and products to operate efficiently and competitively. This guest lecture / lecture series aims to offer practical insights into drivers of successful digital transformation, operations and innovation in a business-oriented technology ecosystem. The students will gain insight into the cross-section between business and technology at Norges Bank Investment Management and will have the opportunity to engage with different technology experts. The lectures suits IT students in their early higher education. The following topics can be held as stand-alone guest lectures or as a lecture series.

Business-driven operations and development
Technology is a key component of delivering impactful change to a business. We will discuss the importance of understanding end users' needs, products and service offerings with an emphasis on joint project ownership and two-way collaboration between business and technology units.

Adapting industry trends
We will outline Norges Bank Investment Management's journey in application development, business-driven development and working methods. How do we monitor technology trends, how do we choose what to adopt, and what impact does the business have on these decisions?

Balancing business and cloud technology
Norges Bank Investment Management transitioned to a cloud-based platform in 2018, which dramatically changed the technology landscape of our organisation. We will analyse the drivers behind the transition to the cloud and outline how a large technological transition can be achieved with minimal impact on business activities.

The life of an investment decision
The financial markets never sleep. How do you operate a global investment fund around the clock, across geographies and in different time zones? The students will get an introduction to the technology that powers the large investment machine of Norges Bank Investment Management. We will review trade-off between the adoption of modern technology, security, robustness, resources, cost implications, and how these choices ultimately affect performance.

The technology eco system of Norges Bank Investment Management
What are the benefits and challenges of internal development vs buying off-the-shelf products? What solutions have we created internally, and why? What are the factors that impact these decisions? In this lecture, we will demonstrate some of the critical projects and workflows of Norges Bank Investment Management such as trading and risk systems, decision support systems and some of our most innovative IT projects.

Financial intelligence
In the marketplace for financial intelligence, we observe a rapid evolution of decision-support tools, trade implementation tools, and a growing need for immediate and correct information. In this lecture, we will demonstrate our technological setup for incorporating external data seamlessly with our own proprietary data, to become an important competitive advantage for Norges Bank Investment Management.

Cloud technology

The world's leading companies are leveraging Cloud IT to become quicker at change, more scalable and more responsive to customer demands. At its core, the Cloud is highly automated IT infrastructure, but how do we as IT professionals fit in this landscape? In a time where most companies still use physical servers and infrastructure, we will discuss the application of Cloud technology in Norges Bank Investment Management, how Cloud technology is changing the IT landscape and how businesses can change with it. Cloud Technology is offered both as individual lecture and as a lecture series. The lectures suit IT students in their early higher education. No prior knowledge of the topic is required.

Basic introduction to "the cloud"
We will review the history of cloud technology and the difference between physical data centres and cloud, and how businesses might already be in the cloud without thinking about it. Students will also get an overview of principal competencies required for working with cloud technology.

Cloud technology at Norges Bank Investment Management
In this session, we will review why we chose to transition to a cloud-based technology platform, the strategy and key learnings.

The future of cloud technology
Students will get insights into the future of cloud technology, how it will change and the expectations and opportunities the technology creates for businesses.

Solution architecture

"Architecture is about the important stuff – (whatever that is)" – Ralph Johnson
Within a technology organization, there are many definitions of architecture and several kinds of solutions architects. Common among them is the objective to design, communicate and implement a vision for the future state of the solutions, infrastructure and processes that support the mission of the organization. In this session, we will demonstrate how solution architecture is applied in a world-class investment fund. We will also discuss how to combine different types of architecture, how rapid change of technology affects architecture work, and possible career paths. The lectures suit IT students in their early higher education. No prior knowledge of solution architecture is required.