COURSE DESCRIPTION
This course will focus on the means and methods of finance applied to social, economic, and environmental challenges. Financial innovations give rise to new intermediaries (e.g., community venture capital, revolving loan funds, social investment banks, business development companies, venture investment trusts), new types of instruments (e.g., structured finance, microfinance, social, environmental and development impact bonds, green bonds, diaspora bonds, catastrophic risk bonds, royalty trusts, community investment notes, and risk pooling finance mechanisms and facilities), and new services, platforms or techniques (e.g., ETFs, impact investing, public-private partnerships, international finance facility for immunization, product development partnerships, value-chain financing) to create jobs, build communities, and enable capital formation and economic growth.

OBJECTIVES
The course will unpack the basic procedures and application of the financial toolkit required to build capital structures to finance business and social enterprises and projects. These sessions will survey the application of innovative financing emerging through new products and services, new processes and operations and organizational forms in addressing problems as diverse as entrepreneurial finance, renewable energy, environmental finance, global health, accelerating medical solutions, regional development, affordable housing, urban revitalization and infrastructure. Students will discover why capital structure matters in aligning diverse interests into new business models for sustainable social and economic change. Students will work through problem sets for innovative financing structures for development projects and enterprises. Students will acquire and apply data gathering, economic, and financial analytical skills to identify specific market failures in developing economies enabling them to apply appropriate financial tools to bridge capital gaps for project and enterprise finance. This would include the ability to identify innovation-led growth targets (e.g., increased crop yields, reduction of disease incidence, lower credit access costs), choose a coherent, time and risk-balanced portfolio of development initiatives required to meet a measurable and tangible development target (e.g., prevention, diagnostics, treatment for global health; job creation and sustainable income and wealth formation); differentiate business, market and technological opportunities for a development target (e.g., on-grid, off-grid, and/or undergrid renewable energy); evolve, accelerate, extend and scale sustainable development business models; and identify criteria for replication (capitalizing external networks, motivate and reward repeating positive-sum economic development strategies). We will discover why capital structure matters in aligning diverse interests into new business models for social and economic change to address Sustainable Development Goals for 2030. Students will research practical applications to financing challenges for economic development.

EVALUATION
1) Final paper (60%)
   Requirements:
   - Students are requested to choose a topic and submit a one-page outline in class on November 27, 2019.
   - Upon approval of the topic and the outline, students are required to compose 15-20 pages (double-spaced) and submit the final paper no later than February 1, 2020.
   - Late papers will not be accepted.
   - Final papers may be submitted in English or Hebrew.
2) **Completion of case study write-ups and readings presentations:** You will be asked to review and present case studies and/or readings related to the course from those listed below. Students will be asked to choose their presentation groups by the end of the first class. (20%)

3) **Class room participation and attendance (20%)**

Based on Performance in this course. Students will have the opportunity to register during the second semester for 2 additional credits for directed research in this area of innovative finance (Course 55680: Directed Research in Financial Innovation)

**COURSE UNIT OVERVIEW**

I. **Introduction to Finance and Financial Innovations**
II. **Structural Changes in Capital Markets and Corporate/Public Finance**
   a. Global Changes
   b. Israel Capital Markets

III. **Entrepreneurial Finance**
   a. Business Finance and Capital Structure
   b. SMEs

IV. **Social Finance**

V. **Financing Ideas: Science and Tech Finance**

VI. **Urban Revitalization**
   a. Public / Municipal Finance
   b. Housing
   c. Community Development

VII. **Regional Development and Project Finance**
   a. Infrastructure
   b. Regional Development
   c. Heritage and Tourism

VIII. **Environmental Finance**
   a. Solid Waste
   b. Rivers
   c. Biodiversity and Ecosystem Services

IX. **Global Development Finance**
   a. Blended Finance
   b. Energy
   c. Ag-Food-Water
   d. Global Health

**SESSION OVERVIEW**

1. **October 30, 2019**
   Introduction to Finance Toolkit and Innovative Finance

2. **November 6, 2019**
   Structural Changes in P3 (Public-Private Partnerships)- Nexus of Corporate/Public Finance

3. **Nov. 13, 2019**
   Entrepreneurial Finance
   Lifecycle of Finance
   Business Finance and Capital Structure
   Equity, Debt finance, and Hybrid Debt Instruments
   SME Financing
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Nov. 20, 2019</td>
<td>Impact Investing and Social Finance</td>
</tr>
<tr>
<td>Nov. 27, 2019</td>
<td>Financing Ideas: Science and Technology</td>
</tr>
<tr>
<td>Dec. 4, 2019</td>
<td>Urban Revitalization, Regional Development, Heritage and Tourism</td>
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<tr>
<td>Dec. 11, 2019</td>
<td>Regional Development—Infrastructure, Culture, Tourism</td>
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<td>Dec. 18, 2019</td>
<td>Environmental Finance</td>
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<td>Biodiversity and Ecosystem Services</td>
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<td>Solid Waste</td>
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<td>River/Watershed Revitalization</td>
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<tr>
<td>December 25, 2019</td>
<td>Christmas Holiday (No Class)</td>
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<td>Jan. 1, 2020</td>
<td>Global Development Finance: Blended Finance</td>
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<td>Jan. 8, 2020</td>
<td>Global Development Finance: Energy</td>
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<td>Jan. 15, 2020</td>
<td>Global Development Finance: Food and Water</td>
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<tr>
<td>Jan. 22, 2020</td>
<td>Global Development Finance: Global Health</td>
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</tbody>
</table>
I. Introduction to Finance and Financial Innovations – October 30

**Required Readings for Lectures**  
*For Student Presentations*

   a. Chapter 1: The Evolution of Finance;  
2. **Madsberg, S. and Keohane, G., Rockefeller Foundation (eds.), The Innovative Finance Revolution, Special Issue of Foreign Affairs, February 2017.**  
7. **"Integrating nature and knowledge into economics,"** Popular Science Background, Nobel Prize in Economic Sciences, 2018.  

II. Structural Changes in Capital Markets—— November 6


   a. Chapter 3: Innovations in Business Finance;  
   b. Appendix: The Black-Scholes Formula.  


IV. Impact Investing and Social Finance – November 20


3. The Financial Performance of Impact Investing through Private Debt, Symbiotics/GIIN, April 2018: 4-16; 61-68


A. Measuring Impact


3. Financial Innovation Lab Case Summaries, Milken Innovation Center-Jerusalem Institute.

V. Financing Ideas: Science and Tech Finance – November 27


VI. Urban Revitalization – December 4

Public Finance Innovations

4. "**New Perspectives on Climate Finance for Cities: Finance Solutions for New and Emerging Infrastructure Approaches to Urban Climate Mitigation and Adaptation,” Siemens-Citi-C40 Cities.

Housing

   a. Chapter 4: Innovations in Housing Finance.
2. "**Allen, Franklin, James R. Barth, and Glenn Yago, Fixing the Housing Market: Financial Innovations for the Future:
   a. Chapter 1, “Housing Crises Go Global: The Boom, The Bust and Beyond,” 1-68;
   b. Chapter 4: “Housing in Emerging Markets,” 103-138;
3. "**Toward Affordable Housing in Israel,” Financial Innovations Lab Report, Milken Innovation Center-Jerusalem Institute, October 2013.

Community Development

1. "**Capital Access in Israel's Underserved Market,” Financial Innovations Lab Report, Milken Innovation Center-Jerusalem Institute, March 2015.
VII. Regional Development and Project Finance – Infrastructure, Culture, Tourism—December 11

Infrastructure

8. NEED Jerusalem Tourism Tax District

VIII. Environmental Finance – December 18

Environmental Finance

   a. Chapter 5: Environmental Finance: Innovating to Save The Planet.
   a. Chapter 1: A Brief Survey of Environmental Asset Classes.
   a. Litterman, Bob,“A Pragmatic Approach to Climate Change,” April 19, 2016;
10. (Case Study): Danish Climate Investment Fund, September 2017 (KIF and Convergence).
IX. Global Development Finance – Blended Finance, December 18


No Class – Christmas Holiday, December 25

X. Global Development Finance – Energy, January 1


Case Studies for Catastrophic Risk and Climate Change

   a. Case Study 3: Ignite Power, Rwanda;
   b. Case Study 5: Gigawatt Global, Rwanda;

Case Studies for Energy


XI. Global Development Finance-Agriculture/Food/Water – January 8

Case Studies for Food/Agriculture/Water

4. Pay for Results in Development: A Primer for Practitioners, USAID/Palladium, 2018
   a. Case Study 4: The Case of Aflatoxin and Maize Production Pay-for-Outcomes;


16. Rayner, Cynthia Schweer, “A Tale of Two African Agricultural Funds,” Skoll Center, Said School of Business, Oxford University/ Bertha Centre, University of Cape Town Business School, 2015 (Case Study).

XII. Global Development Finance—Global Health – January 15

Case Studies for Global Health


2. Lorcan Clarke, et.al., “Development Impact Bonds Targeting Health Outcomes,” Center for Global Development 133, December 2018


