



COURSE DESCRIPTION

This is a graduate level course on economic analysis of technology/business development for commercialization. Topics include Pro Forma financial statements, time value of money, valuation approaches, and entrepreneurship

EXPECTED LEARNING OUTCOMES

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

- Utilize the concepts related to the time value of money (e.g., loan financing, present value, future value).
- Create Pro Forma Income Statements, Cash Flow Statements and Balance Sheets.
- Interpret financial statements to evaluate the economic potential and business value.
- Determine investments required, financing required, and ownership outcomes of new ventures.

COURSE FORMAT

- In Person | **15-week** semester
- Tailored to your **professional needs**
- **3-credit** hour | You may apply it towards SIE MS and PhD programs



PROGRAM DIRECTOR
Dr. Pavlo Krokhmal
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ENROLLMENT
Graduate Coordinator
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COURSE SCHEDULE

LECTURE 1

- Course Overview & Introduction

LECTURE 2

- Financial Statement Templates

LECTURE 3

- Financial Statement with Inventory & Backlog

LECTURE 4

- Account Receivables and Payables

LECTURE 5

- Time Value of Money

LECTURE 6

- Nominal and Effective Interest Rates

LECTURE 7

- Loan

LECTURE 8 & 9

- Depreciation and Amortization

LECTURE 10

- Taxes

LECTURE 11

- Payroll and Expenses

LECTURE 12

- Overhead Rate

LECTURE 13 & 14

- Valuation

LECTURE 15

- Inflation

LECTURE 16

- Project Risk and Uncertainty

LECTURE 17

- No Class (INFORMS Annual Meeting)

LECTURE 18

- Project 2

LECTURE 19

- Monte Carlo Simulation with @Risk

LECTURE 20 & 21

- Replacement Analysis

LECTURE 22

- Ownership

LECTURE 23

- Project 3

LECTURE 24

- Decision Tree

LECTURE 25

- Cost Estimation

LECTURE 26

- Guest Lecture on Cost Estimation

LECTURE 27

- Case Study

LECTURE 28

- No Class

LECTURE 29

- Design Economics

LECTURE 30

- Guest Lecture on Financial Modeling for Process Optimization

LECTURE 31

- Review, Q&A



Real-World
Application



Flexible/Interactive
Learning



Bridge Theory &
Practice



Innovative
Curriculum



Distinguished
Faculty

FROM EFFICIENCY TO INNOVATION—LEAD THE FUTURE OF INDUSTRIAL ENGINEERING.

