

## Flipped IN-CLASS Lesson Plan Template

### Topic or concept:

FIN 4030 Intermediate Business Finance: How Time Value of Money relates to Capital Budgeting

Textbook: Corporate Finance by Ross, Westerfield & Jaffee, McGrawHill

### Basic objectives:

1. Describe the time value of money
2. List various capitals
3. Demonstrate the relationship between the time value of money and net present value (NPV)
4. Define the payback period method of capital budgeting and its relationship with the time value of money

### Advanced objectives for classwork & after class work:

1. Demonstrate that NPV uses the correct discount rate
2. Build successful capital budgeting criteria
3. Evaluate capital budgeting processes
4. Demonstrate how the time value of money affect successful capital budgeting projects
5. Describe the relationship between NPV and IRR
6. Evaluate similarities, the strengths and the weaknesses of these two capital budgeting criteria

	Time planned	Activity and rationale	Resources needed
Beginning of class period	15 mins	<p>Discuss the application of the time value of money from the short Canvas quiz from preparatory work</p> <p>Apply conceptions time value of money to personal finance as well as business capital budgeting</p>	Paper and calculator/laptop spreadsheet
Middle of period	20 mins	<p>Mini-lecture based on Q&amp;A from preparatory activities on reviewing the difference between the time value of money and NPV. Clarify common misconceptions on the use of correct discount rates to be used in capital budgeting</p>	Lecture prep/slides
Middle of period	30 mins	<p>Think aloud pair problem solving. Teamwork practice solving problems and articulating solutions: Calculating NPVs with a case study with a spreadsheet</p>	Problem sheets
End of period	20 mins	<p>Solidify understanding of NPV by showing on example of how it can be used in setting up their own future degree/work choices. This leads to the next step in capital budgeting, the relationship between internal rate of return (IRR) and NPV.</p>	Lecture with power point and spreadsheet

## Flipped AFTER CLASS Work Plan Template

Advanced learning objective	Activity and rationale	Instructions to students
<ol style="list-style-type: none"><li>1. Demonstrate that NPV uses the correct discount rate</li><li>2. Evaluate capital budgeting processes</li><li>3. Demonstrate how the time value of money affect capital budgeting projects</li><li>4. Build successful capital budgeting criteria</li><li>5. Relate NPV and IRR</li></ol>	<p>Review the lecture notes #3 with problems and solutions with annotated step by step (ALO 1, 3)</p> <p>Solve the same case study done in the middle of the period above, this time using IRR. This work prepares students for the next class on evaluating successful capital budgeting projects (ALO 2, 4, 5)</p>	<p>First solve the lecture notes without looking up the solutions, then compare your solutions to the keys provided. Recall the relationship between NPV and IRR. Solve the case using IRR. <i>You may work together; just be sure that everyone write the final answer independently as the exam will be similar to this work.</i></p>

## GUIDED PRACTICE

Class: FIN 4030

Date assigned:

Date due:

Time estimate to complete this assignment: 50 minutes

### Overview/Introduction

What is this lesson about? Why do we care?

This lesson is about applying the basic time value of money to selecting successful investment projects, using the standard investment decision making tools. We care about this particular application of time value of money since it is the most basic function of a financial manager to be able to make good capital budgeting decisions.

### Learning Objectives

Basic objectives

1. Describe the time value of money
2. List various capitals
3. Demonstrate the relationship between the time value of money and net present value (NPV)
4. Define the payback period method of capital budgeting and its relationship with the time value of money

Advanced objectives

1. Demonstrate that NPV uses the correct discount rate
2. Build successful capital budgeting criteria
3. Evaluate capital budgeting processes
4. Demonstrate how the time value of money affect successful capital budgeting projects
5. Describe the relationship between NPV and IRR Evaluate similarities, the strengths and the weaknesses of these two capital budgeting criteria

## Preparatory Activities and Resources:

Please review the short 10 question Canvas quiz

Review Calculating NPVs with a Spreadsheet application (Chapter 5 p137)

Based on this, set up a personal finance spreadsheet projecting your life into the next five years

Exercises: Please complete and submit online by one day before the class

## Questions?

Please leave questions on Canvas or email to: [tkim1@calstatela.edu](mailto:tkim1@calstatela.edu)

## ADVANCED PRACTICE

Class: FIN 4030

Date assigned:

Date due: 60 minutes

Time estimate to complete this assignment:

### Learning Objectives

#### Advanced objectives

1. Demonstrate that NPV uses the correct discount rate
2. Build successful capital budgeting criteria
3. Evaluate capital budgeting processes
4. Demonstrate how the time value of money affect successful capital budgeting projects
5. Describe the relationship between NPV and IRR
6. Evaluate similarities, the strengths and the weaknesses of these two capital budgeting criteria

### Activities & deliverables

Please finish the assignment based on lecture notes #3 with annotated solutions and the case study using IRR

The total score is 20.

You may work together; however be sure that you write the solutions and notation independently as the exam will be similar to this work.

### Resources:

1. Lecture notes #2 & #3, Textbook section 5.5 & 5.6 on NPV and IRR rules
2. Section 5.7 on the Practice of Capital Budgeting using all the criteria

### Questions?

Please leave questions on Canvas or email to: tkim1@calstatela.edu