

## ISE 307 — In-Class Activity 03 — Individual Worksheet

Name: \_\_\_\_\_ Unique initials: \_\_\_\_\_

Student ID: \_\_\_\_\_ Date: \_\_\_\_\_

**Instructions.** Use  $i = 8\%$  compounded annually. Take **two** of the rows you marked with your initials on the group worksheet (one inflow and one outflow if you can). For each, record its details, categorize it into one of the five Lecture 2 decision types with a one-line reason, then compute  $P$  (today) and  $F_{10}$  (year 10). Show all steps in the box and write the final answer below.

### Transaction 1

Name: \_\_\_\_\_ Year: \_\_\_\_\_ Amount: \_\_\_\_\_

Cash flow (circle one): Inflow (+) Outflow (−)

Type (circle one of the five Lecture 2 decision types):

1. New product / expansion
2. Equipment / process selection
3. Cost reduction
4. Equipment replacement
5. Service & quality improvement

Reason for type: \_\_\_\_\_

$P =$  \_\_\_\_\_

$F_{10} =$  \_\_\_\_\_

### Transaction 2

Name: \_\_\_\_\_ Year: \_\_\_\_\_ Amount: \_\_\_\_\_

Cash flow (circle one): Inflow (+) Outflow (−)

Type (circle one of the five Lecture 2 decision types):

1. New product / expansion
2. Equipment / process selection
3. Cost reduction
4. Equipment replacement
5. Service & quality improvement

Reason for type: \_\_\_\_\_

$P =$  \_\_\_\_\_

$F_{10} =$  \_\_\_\_\_

## Cash Flow Diagram

Draw a single time axis (years 0–20) and place the transactions you computed: up arrows for inflows, down arrows for outflows. Then mark, with **dashed** arrows, your **total  $P$**  (at year 0) and **total  $F_{10}$**  (at year 10) from summing your transactions.

**My total  $P$  (today) =** \_\_\_\_\_ **My total  $F_{10}$  (year 10) =** \_\_\_\_\_

## Engineering / Technical Suggestions

For *your* transactions, suggest realistic engineering or technical actions that would **increase an inflow** or **reduce an outflow** (in amount, or by shifting its timing), **without forcing major changes** to your teammates' transactions. Be specific and tie each idea to the cash flow it affects.

**1. To maximize an inflow** (which transaction, and how):

**2. To minimize an outflow** (which transaction, and how):