CapitalWave Inc.
TECHNOLOGY ENABLED LEARNING

INTEGRATION AND SAMPLE ACTIVITIES

Turn a concept into evidence.

A planning guide for faculty and program teams

This pack offers one fictional worked teaching activity for each of the five analyzer and operations products. Use it to prepare a demonstration or design a learning activity. It is not a collection of exported platform records, a preloaded scenario catalog or an approved grading rubric.

Set the learning outcome

Choose one decision learners must explain. Match the platform and activity to the course level, prerequisites and available class time.

Prepare access and instructions

Test the selected product on institutional devices. Confirm account, cohort and instructor arrangements for that product before inviting learners. Supply assumptions and submission requirements.

Run the activity

Start with a baseline, change one assumption and ask learners to explain the difference. Use the suggested timings as planning estimates rather than prescribed course durations.

Review evidence and debrief

Collect calculations or decision records, compare reasoning and discuss limitations. Faculty or program owners set grading and competency decisions.

Timings are planning estimates. Confirm the chosen platform, access arrangements and actual workflow before assigning an activity. No live market prices or learner information are used in these samples.

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CAPITALFIA

Price a bond after a yield change

Fixed-income pricing and interest-rate risk | Suggested time: 30-45 minutes

Assumptions

Fictional bond: face value $1,000, annual coupon 5%, three years to maturity, annual compounding, valuation on a coupon date. No accrued interest, taxes, transaction costs or default risk.

Task

Price the same cash flows at yields of 5% and 6%. Explain the direction of the price change and why repricing is different from a duration approximation.

Illustrative expected output

Measure or decision	Expected output
Price at 5% yield	$1,000.00
Price at 6% yield	$973.27
Price change	-$26.73 (-2.67%)

P(y) = 50/(1+y) + 50/(1+y)^2 + 1,050/(1+y)^3.

Debrief

A higher discount rate reduces the present value of the same promised cash flows. These are exact discounted values under the stated assumptions, not a forecast of market prices.

Evidence to collect: Submit both prices, the cash-flow schedule and a short explanation of the yield sensitivity.

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CAPITALODA

Separate option payoff from profit

Option payoffs and strategy analysis | Suggested time: 25-35 minutes

Assumptions

Fictional long call: strike $100, premium $6 per share, one option on one share. Evaluate only at expiry. Ignore financing, dividends, fees and taxes; no contract multiplier.

Task

Evaluate terminal underlying prices of $90, $100, $106 and $120. Identify break-even and maximum loss. Distinguish an expiry payoff from a pre-expiry option valuation.

Illustrative expected output

Measure or decision	Expected output
At $90: payoff / profit	$0 / -$6
At $100: payoff / profit	$0 / -$6
At $106: payoff / profit	$6 / $0
At $120: payoff / profit	$20 / $14

Payoff = max(S - 100, 0). Profit = payoff - 6. Break-even = $106; maximum loss = $6 per share.

Debrief

An in-the-money option can still produce a loss after premium. Expiry arithmetic does not measure the option's value before expiry.

Evidence to collect: Submit the four outcomes and explain why a $103 terminal price would still result in a $3 loss.

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CAPITALPAS

Explain diversification with two assets

Portfolio allocation and risk | Suggested time: 35-45 minutes

Assumptions

Fictional annual inputs: asset A expected return 8%, volatility 15%; asset B expected return 4%, volatility 5%; correlation 0.20. Weights: 60% A, 40% B. No leverage, costs or rebalancing effects.

Task

Calculate expected portfolio return and volatility. Repeat with correlation 1.00 while holding all other inputs fixed. Explain why weighted-average volatility is not the usual portfolio result.

Illustrative expected output

Measure or decision	Expected output
Expected return	6.40% annually
Volatility at correlation 0.20	9.60% annually
Volatility at correlation 1.00	11.00% annually

Return = wA rA + wB rB. Variance = wA^2 sigmaA^2 + wB^2 sigmaB^2 + 2 wA wB sigmaA sigmaB rho; volatility is its square root.

Debrief

Imperfect correlation lowers volatility in this example. Expected returns, volatilities and correlations are assumptions, not promised outcomes.

Evidence to collect: Submit both risk estimates and identify the input that changes the diversification benefit.

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CAPITALEQA

Defend a dividend valuation assumption

Equity valuation and required return | Suggested time: 25-35 minutes

Assumptions

Fictional dividend-paying company: next annual dividend D1 = $3; constant perpetual growth g = 3%; required return k = 9%. Repeat at k = 10%. Model assumes k > g and dividends represent the cash flows being valued.

Task

Calculate value per share under both required returns. Explain the change and identify a business for which constant perpetual dividend growth would be a poor assumption.

Illustrative expected output

Measure or decision	Expected output
Value at 9% required return	$50.00 per share
Value at 10% required return	$42.86 per share
Change in model value	-14.29%

Constant-growth dividend value V0 = D1/(k - g). D1 is the next dividend, not the most recent dividend.

Debrief

A small change in the discount-rate spread can materially change model value. A model result is not an observed price or an investment recommendation.

Evidence to collect: Submit the two valuations, sensitivity explanation and one limitation of the model.

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CAPITALBOS

Investigate a matched but unsettled trade

Post-trade controls and evidence | Suggested time: 40-60 minutes

Assumptions

Fictional teaching case: trade economics match, but receiving instructions require review. The case record contains no confirmed securities or cash movement. This sample is not a shipped scenario identifier or a jurisdiction-specific rulebook.

Task

Identify missing evidence, record the issue, seek the required controlled approval and determine what must be confirmed before a reconciled outcome can be recorded. Discuss the response if the cutoff is missed.

Illustrative expected output

Measure or decision	Expected output
Initial status	Investigation open
Evidence gap	Receiving instruction and movement confirmation
Release decision	Hold pending controlled review
Completion evidence	Confirmed movement and reconciled records

Separate matching, approval, asset movement and reconciliation. An approval alone does not establish that settlement occurred.

Debrief

Record what is known, what remains unconfirmed and why a release is or is not justified. Use the selected platform scenario's actual rules and debrief criteria during a demonstration.

Evidence to collect: Submit an exception note, control rationale and evidence checklist. This illustrative activity does not assign a platform score.

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PLAN THE EVALUATION

A demonstration that answers real questions.

Check	Evidence to review
Learner experience	Open the selected tool or scenario, supply assumptions and complete the task.
Instructor workflow	Where applicable, inspect cohort setup, assignment, learner progress and available exports.
Decision quality	Check calculation logic, explanation of assumptions and treatment of uncertainty.
Institutional fit	Test devices and access; agree account management, privacy and support responsibilities.
Pilot acceptance	Define a completion outcome and a review date before widening deployment.

A suggested evaluation record

Record the product, activity, reviewer, date, inputs, expected outputs, observed results and unresolved questions. Distinguish observed functionality from planned capability. Your institution determines assessment policy and required evidence.

Discuss licensing

Confirm products, numbers of users, access period, onboarding, support and any integration request. Obtain a written proposal. No public price, LMS integration or SSO commitment is implied by this pack.

These materials support education and product evaluation. Fictional assumptions and model values are not investment advice or professional certification.

Contact: info@capitalwave.com

View current evaluation resources