SimArenas: Course Learning Objectives ↔ Game Mapping (Instructor Guide)

This guide helps you adopt SimArenas in a plug-and-play way. Most instructors start with one module (one game) or two modules, and expand later if desired. When you request instructor access, you select the game(s) you plan to use; students then see and pay only for those selected games.

1. Quick module menu (pick 1–2 to pilot)

Use this table as a fast "what should I drop into my syllabus?" reference. Times reflect a typical in-class run plus a short debrief; you can shorten or extend via instructor settings.

Game	Best used for	Core student decisions	Typical class time
Widget Wizards (Assembly Line)	Process flow, bottlenecks, Little's Law	Allocate workers; set buffers/pacing	30–45 min
McKesson Car Wash	Capacity + variability; waiting space	Staffing; overflow capacity; optional promo	60–75 min (A); +45–60 min optional (B)
BeanWorks (Inventory Replenishment)	Continuous review (r,Q); safety stock under lead time	Choose r and Q; interpret demand/lead time data	45–75 min
Beer Game	Bullwhip effect; delays; coordination	Weekly order quantities under delays	30–60 min
Widget General Hospital	ED/ICU coupling; congestion; capacity planning	Adjust ED/ICU capacity; manage congestion risk	60–75 min
ReliableCo Manufacturing	Workforce planning; seasonality; smoothing vs chasing	Set staffing + overtime; pre-build vs chase demand	60–75 min

2. Plug-and-play examples (minimal syllabus disruption)

Example A — Week 3 drop-in (one class session)

- Pick one: Widget Wizards (30–45 min) OR Car Wash Case A (60–75 min).
- Assign the case PDF in advance (10–15 minutes of prep).
- In class: 5 min setup → run game → 10–15 min debrief using the metrics.
- Optional: one-page reflection due next class (what changed and why).

Example B — Inventory mini-module (two sessions, optional)

- Session 1: BeanWorks to learn (r,Q) and safety stock (single stage).

- Session 2: Beer Game to see amplification across stages (bullwhip).
- If you only want one day: choose BeanWorks (policy design) OR Beer Game (coordination).

3. Optional full-semester sequence (example only)

If you want a broader experiential arc, here is one common 12-week mapping. Treat this as a menu: you can drop any item without affecting the others.

- Weeks 1–3: Process Flow Foundations — Widget Wizards (Assembly Line).
- Weeks 3–5: Service Ops & Variability — Car Wash Case A (optional Case B).
- Weeks 5–8: Supply Chain & Inventory — BeanWorks + Beer Game (either can stand alone).
- Weeks 8–10: Healthcare Flow — Widget General Hospital.
- Weeks 10–12: Workforce Operations — ReliableCo (optional advanced variant).

4. Common student learning pitfalls

- Underestimating the impact of variability and failing to buffer appropriately.
- Misidentifying the true bottleneck without reviewing timestamp data.
- Reacting too aggressively to inventory signals (bullwhip).
- Ignoring time delays between decision, order, and receipt.
- Choosing interventions without a cost–benefit analysis.
- Not considering system stability (e.g., queue blowups at high utilization).

5. Assessment options

- In-class participation or decision-making score.
- Post-game reflection: what worked, what didn't, and how strategy evolved.
- Data analysis assignment using exported timestamp data (Excel/Python).
- Short memo evaluating cost–benefit of operational interventions.
- Optional advanced challenge: optimization/calibration (ReliableCo or Hospital).