

Exploring Business V2.1
By Karen Collins

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Chapter 11

Operations Management in Manufacturing and Service Industries

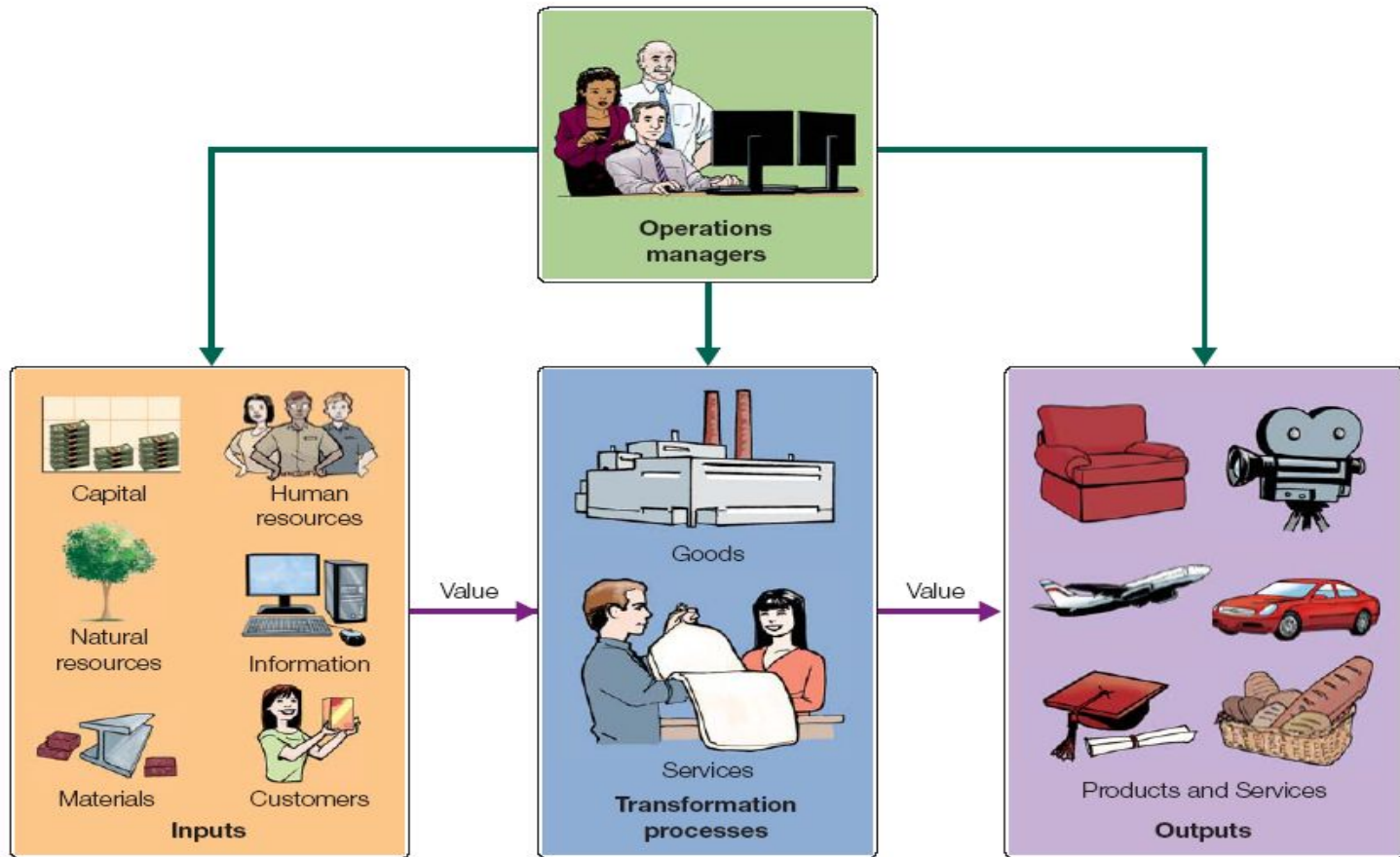
Chapter Objectives

- Define *operations management* and discuss the role of the operations manager in a manufacturing company
- Describe decisions made in planning the production process in manufacturing
- Compare and contrast production methods
- Describe major types of facility layouts
- Identify activities taken to oversee the production process in manufacturing
- List characteristics distinguishing service from manufacturing operations
- Explain the use of technology, TQM, and outsourcing to provide value

Operations Management

“...all activities involved in transforming a product idea into a finished product, as well as those involved in planning and controlling the systems that produce goods and services.”

Transformation Process



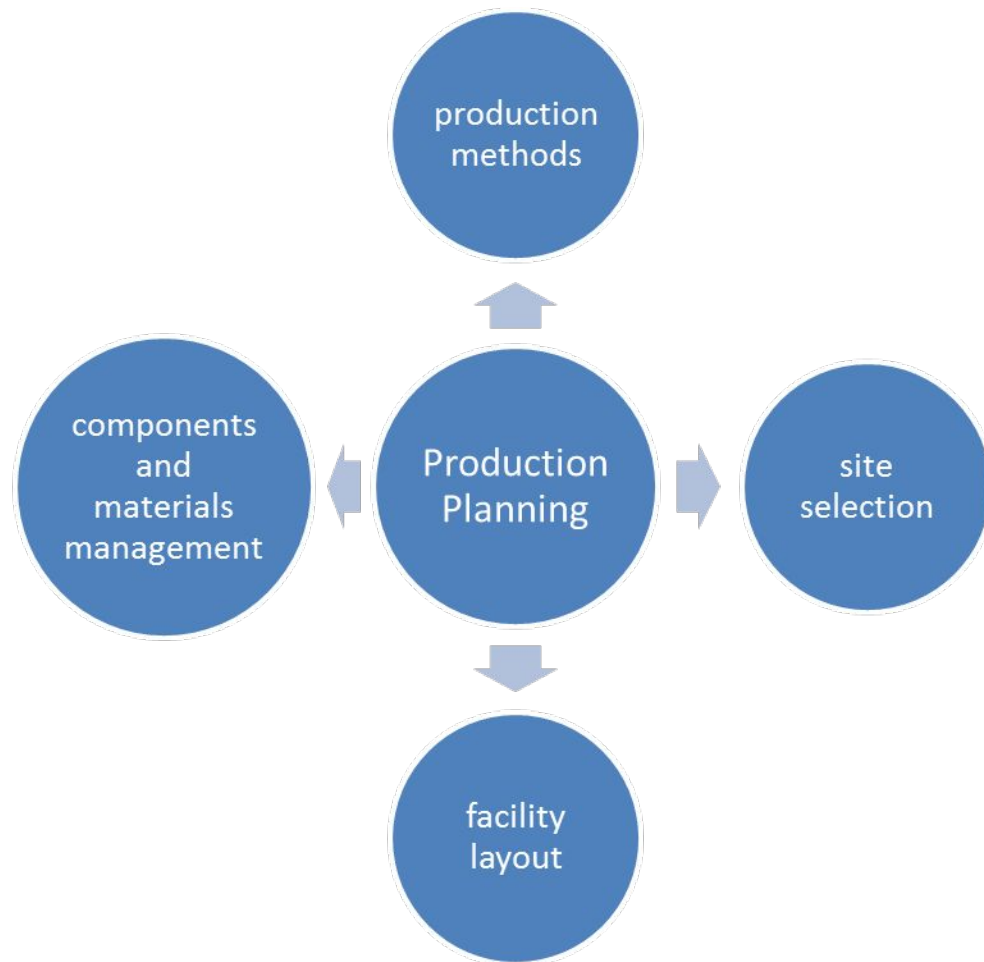
Manufacturing

“All manufacturers perform the same basic function: *to transform resources into finished goods.*”

Operations Management Responsibilities

1. **Production Planning**
2. **Production Control**
3. **Quality Control**

Production Planning components



Production Planning: Production Method Decisions

- Make-To-Order

Customized products

low-volume, high-variety goods
according to customer specifications

- Mass Production

Standardized goods

high volumes of identical goods
at a low cost

- Mass Customization



In class: **The Process of Producing**

Compare and contrast three types of production processes:

- make-to-order
- make-to-stock
- mass customization

Why are more companies today devoting at least a portion of their operations to mass customization?

Identify three goods that can be adapted to mass customization and three that can't.

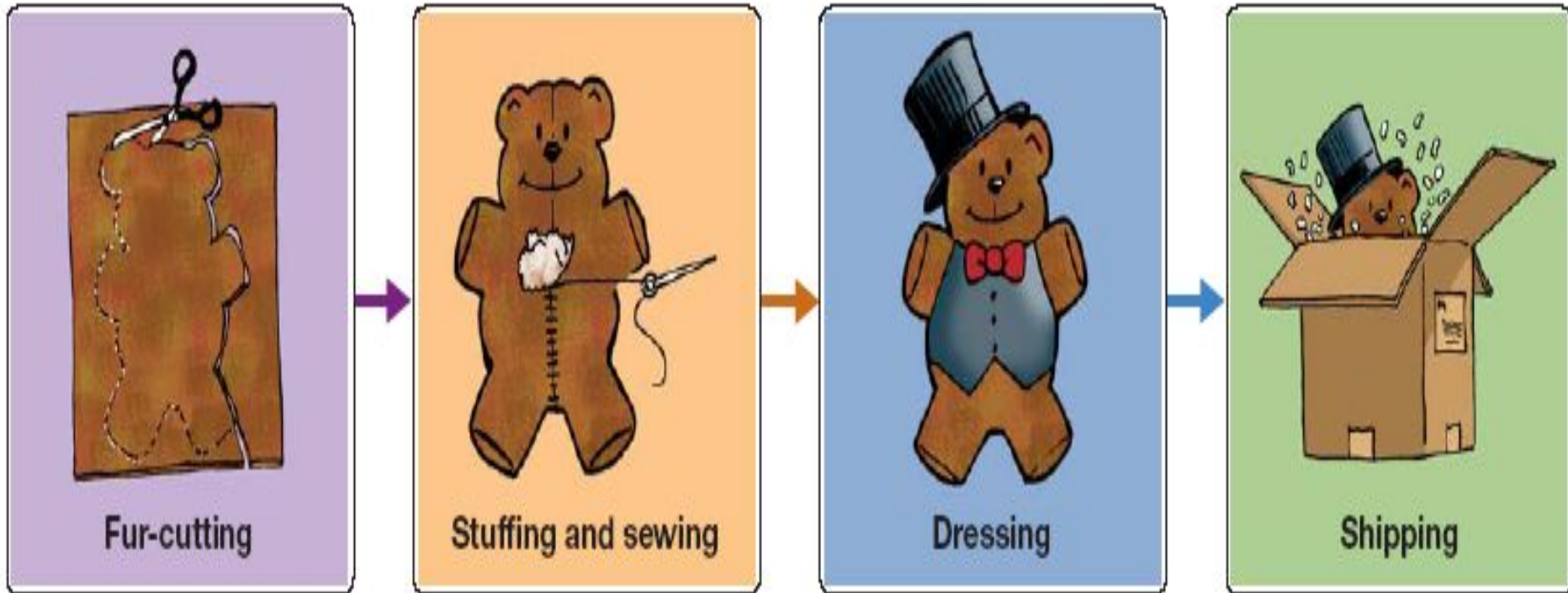
Production Planning: Facilities Decisions

- Site Selection
 - Close to suppliers, customers, or both
 - Supply of skilled workers
 - Quality of life
 - Resource costs
 - Business climate
- Capacity Planning
- Layout Planning



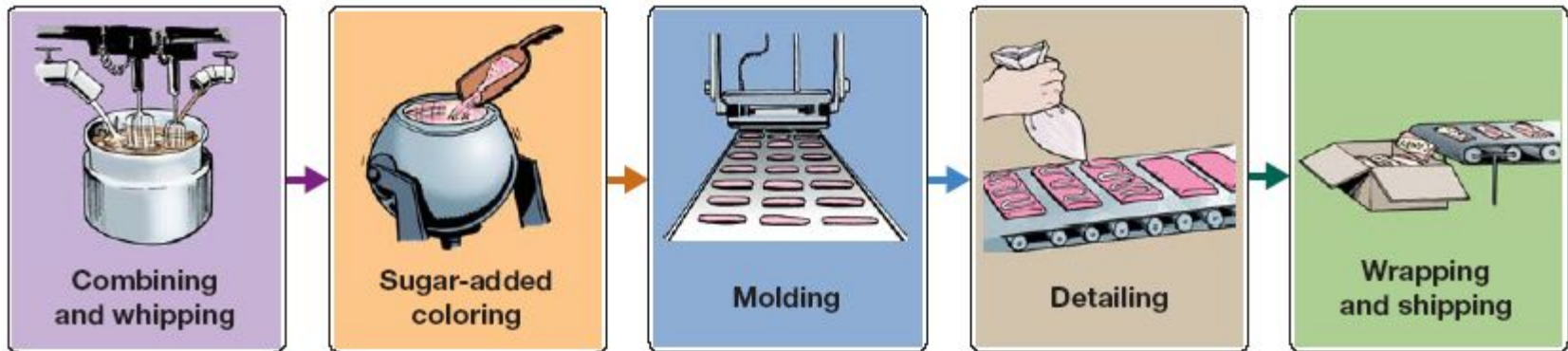
Production Planning: Process Layout

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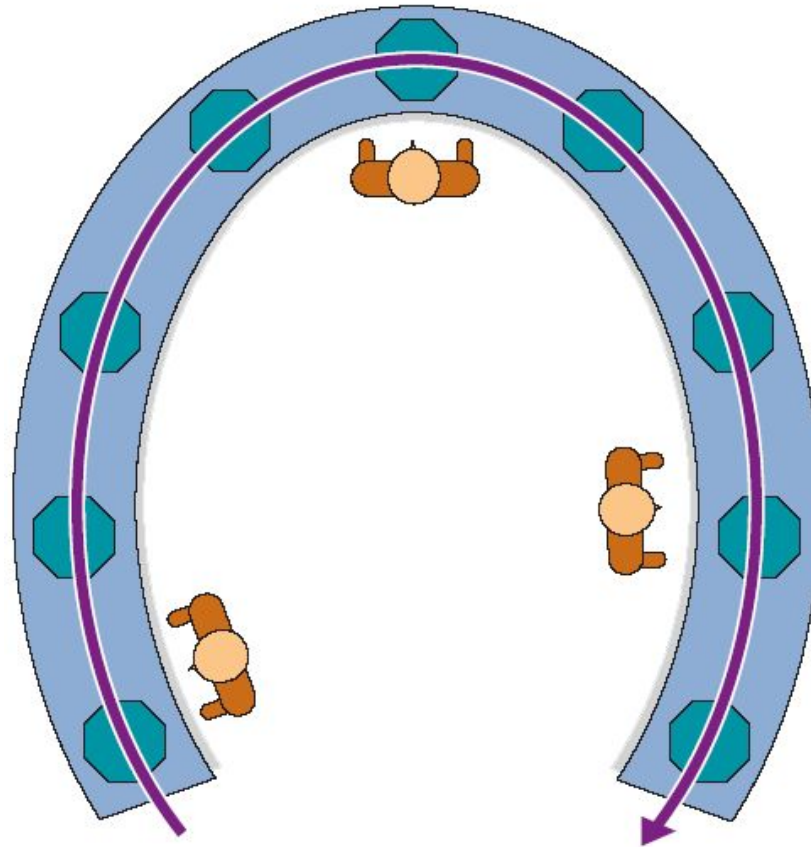
Production Planning: Product Layout




Click on [this link](#) to experience an active version of this figure.



Production Planning: Cellular Layout

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-  Task in the manufacturing process
-  Employee
-  Work flow

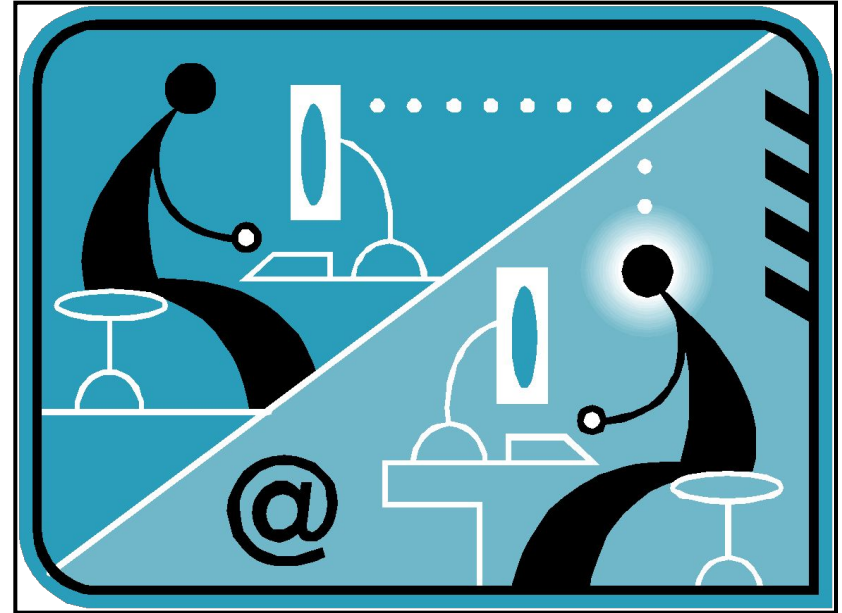
In class: **What to Do When the Layout Is Up in the Air**

As purchasing manager for a company that flies corporate executives around the world, you're responsible for buying everything from airplanes to onboard snacks. You have to visit the facilities that make these various products.

What type of layout do you expect to find at each plant? Provide at least a couple examples for each type layout process.

Production Planning: Purchasing And Supplier Selection

- Purchasing
- Supplier Selection
- E-Purchasing
- Electronic Data Interchange



Production Planning: Inventory Control

- Just-In-Time
- Material Requirements Planning

generates a production schedule based on estimated output
prepares a list of needed materials
orders the materials

- Manufacturing Resource Planning



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Work Scheduling

- Master Production Schedule
- Gantt Charts
- Production Control: ERT Charts



Gantt Chart

Activity/Day	1	2	3	4	5	6	7	8	9	10	11	12	13
Cut fur	Completed	Completed											
Stuff and sew fur			Completed	Completed	Completed	Completed	Work to be completed	Work to be completed					
Cut material	Completed	Completed											
Sew clothes			Completed	Completed									
Embroider T-shirt					Completed	Completed							
Cut accessories	Completed												
Sew accessories		Completed	Completed										
Dress bears									Work to be completed	Work to be completed	Work to be completed		
Package bears												Work to be completed	
Ship bears													Work to be completed

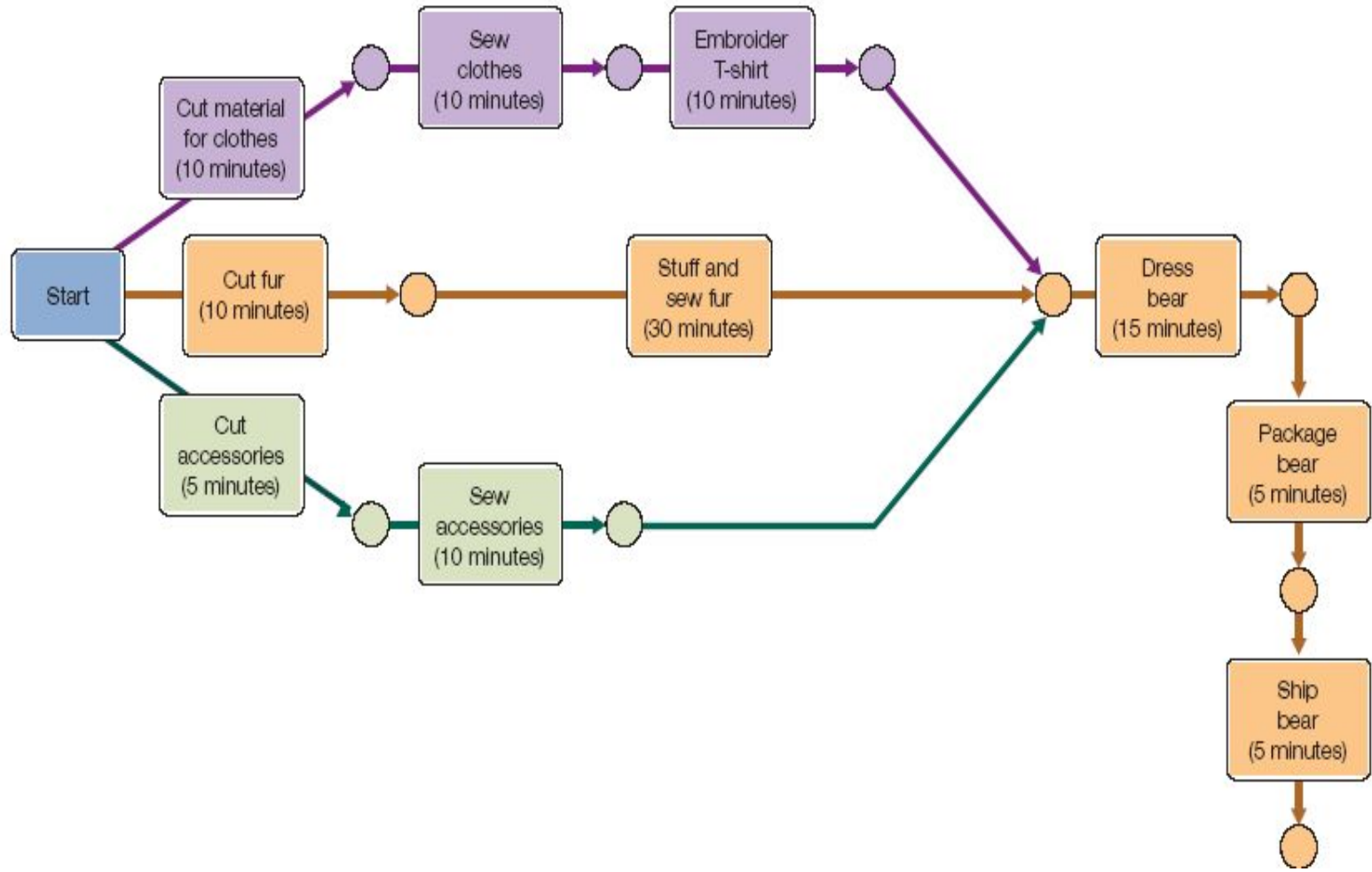
Lot size: 100 bears

All activities are scheduled to begin at their earliest start time.

- Completed work
- Work to be completed

PERT Chart (*Program Evaluation and Review Technique*)

Click on [this link](#) to experience an active version of this figure.



In class: **What's PERTinent in Planning Coursework?**

Earning a college degree requires that you take a specified number of credits and take several required courses, particularly in your major. On top of everything else, deciding which courses to take and when to take them can be complicated by the fact that some of them have prerequisites.

Pick a major that interests you and prepare a PERT chart that diagrams all the courses you plan to take each semester to complete your major.

Identify your critical path. What happens if you fail to take one of your critical-path courses on time?

Technology Of Goods Production

- Computer-Aided Design
- Computer-Aided Manufacturing
- Computer-Integrated Manufacturing
- Flexible Manufacturing Systems



Similar Goals Manufacturing and Service Providers

The goal and responsibility of operations managers in both manufacturing and service is to satisfy customers needs.

Differences Between Manufacturing and Service Operations

- Intangibility
- Customization
- Customer Contact



Operations Planning for Service Providers

- Operations Processes
 - Make-To-Order
 - Make-To-Stock
- Facilities
 - Site Selection
 - Size/Layout
 - Capacity Planning



Service Industry Managing Operations

- Scheduling
- Inventory Control



Quality Management Or Assurance—TQM

- Customer Satisfaction
- Employee Involvement
- Continuous Improvement
 - Statistical Process Control
 - Benchmarking
- International Quality Standards
 - ISO 9000
 - ISO 14000



Outsourcing

- Manufacturing



- Service

In class: **How Does Coca-Cola Get to Be Coca-Cola?**

To find out how Coke is made, go to the company's Web site. After you've gained a little understanding about the production process, assume that you've just been hired as an operations manager at a new bottling plant.

Among your first steps:

Decide where to set up the plant and explain the various planning decisions that you'd make to get operations under way.

Then fast-forward two years, to the point at which the plant is up and running.

What responsibilities do you have now?

What technologies do you use in your plant?

How do you ensure that your Coke meets the company's strict quality standards?