Review Syllabus
Trends in US Employment by Sector

Source: U.S. Department of Commerce, Bureau of the Census 2003
Percent Service Employment for Selected Nations

<table>
<thead>
<tr>
<th></th>
<th>1980</th>
<th>1987</th>
<th>1993</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>67.1</td>
<td>71.0</td>
<td>74.3</td>
<td>80.4</td>
</tr>
<tr>
<td>Canada</td>
<td>67.2</td>
<td>70.8</td>
<td>74.8</td>
<td>73.9</td>
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<tr>
<td>Japan</td>
<td>54.5</td>
<td>58.8</td>
<td>59.9</td>
<td>72.4</td>
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<tr>
<td>France</td>
<td>56.9</td>
<td>63.6</td>
<td>66.4</td>
<td>70.8</td>
</tr>
<tr>
<td>Israel</td>
<td>63.3</td>
<td>66.0</td>
<td>68.0</td>
<td>70.7</td>
</tr>
<tr>
<td>Italy</td>
<td>48.7</td>
<td>57.7</td>
<td>60.2</td>
<td>61.1</td>
</tr>
<tr>
<td>China</td>
<td>13.1</td>
<td>17.8</td>
<td>21.2</td>
<td>26.4</td>
</tr>
</tbody>
</table>
Bottom Line

- Service Processes and Systems are incredibly important
- Have received little attention from engineers
  - Engineers improved productivity of agricultural sector
  - Engineers improved productivity of manufacturing sector
  - Productivity: $/person
Getting Started

- This class will focus on the design and operation of services processes and systems.
- First time the class will be taught – with this in mind, emphasis will be placed on nurturing interactivity – together, we will co-develop the class.
More on Getting Started

- Several types of books out there
  - Management/Operation of Service Systems
    - Very fuzzy / not quantitative
    - Business focused
    - Little attention to design
  - Systems
    - General & tend to emphasize products
    - Little attention to service systems
Service Definitions

- Many definitions of service are available but all contain the common themes of “intangibility” and “simultaneous consumption”.

- Two examples are:
  - Services are deeds, processes, and performances. (Zeithaml)
  - A service is a time-perishable, intangible experience performed for a customer acting in the role of co-producer. (James Fitzsimmons)
Course Coverage

- **Service Processes vs. Service Systems**
  - Issue of Scale & Complexity
  - System: consists of many processes

- **What are the “things” we need to learn**
  - Operation/management
  - Design
Businesses with a Significant Service Component
Elements of a Service Process