Assignment for Next Class

- Read and prepare case studies 1, 2, and 3 (p. 456 – 459).

Decision Making and Problem Solving

Programmed versus Non-programmed Decisions

- Programmed decisions
  - Structured situations with well defined relationships
  - Quantifiable
  - Management information system
  - Easy to computerize

- Non-programmed decisions
  - Rules and relationships not defined
  - Problem is not routine
  - Not easily quantifiable
Problem Solving Approaches

- **Optimization**: find the best solution
- **Satisficing**: find a good solution
- **Heuristics**: rules of thumb

An Overview of Management Information Systems

Inputs to an MIS

Output of an MIS: Five types of reports

- Scheduled reports
- Key-indicator reports
- Demand reports,
- Exception reports,
- and drill-down reports.

Scheduled Reports

- Repeatedly generated at a predefined time, e.g. at the end of each week.
- Examples:
  - Weekly payroll summary
  - Monthly sales

Key-Indicator Reports

- Summarize important numbers, which reflect the overall situation.
- Examples:
  - Sales volume
  - Average margin
  - Percentage of returns, etc.
Demand Reports

• Generated once the specific information is needed.
• Example: List of past sales to a key customer prior to visiting him

Output of an MIS

• Exception reports list exceptional events.
• Hybrid report types are possible, e.g. a scheduled key-indicator report.

Outputs of an MIS

<table>
<thead>
<tr>
<th>Output Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exception Reports</td>
<td>List exceptional events</td>
</tr>
<tr>
<td>Hybrid Reports</td>
<td>Combination of exception and scheduled reports</td>
</tr>
</tbody>
</table>

ERP, TPS, MIS: Fuzzy Borders

TPS / Order Processing

MIS / Sales Reports

Functional Aspects of an MIS

• Bad, but common: Printout
• Better: Machine-readable message, which can be used as input for another computer system

Bill of Materials
5 pcs ABC
2 pcs XYZ
Overview of a Manufacturing MIS

Master Production Scheduling and Inventory Control

When and how much to order?
- Economic Order Quantity (EOQ)
- Reorder Point (ROP)
- Material Requirements Planning (MRP)

MRP – Material Requirements Planning
- Determines the amount of parts needed.
- Demand between products can be interrelated.

MRP – Input
- Master Production Schedule (MPS)
- Bill of Material (BOM): lists the component part numbers for each part
- Inventory status data

MRP – Manufacturing Resource Planning
- Includes requires workstation time, employees, and other resources.
- Capacity restrictions are included in the planning process.

Characteristics of a DSS
Thank you!

The slides will be available on the internet at
http://ruby.fgcu.edu/courses/mhepp/
(-> CRN10031)