Activity Type
Basic Logic Patterns for Arrow Diagrams

(a) Basic Activity
Basic Logic Patterns for Arrow Diagrams (cont.)

(b) Independent Activities

(c) Dependent Activities
Basic Logic Patterns for Arrow Diagrams (cont.)

(d) A Merge

Activity C depends upon the completion of both Activities A & B

(e) A Burst

Activities B and C both depend upon the completion of Activity A
Activities C and D both depend upon the completion of Activities A and B

(f) A Cross
The use of dummy to maintain unique numbering of activities

(a) Incorrect Representation

(b) Correct Representation
The use of dummy to maintain unique numbering of activities (cont.)

(a) Incorrect Representation

(b) Correct Representation
Removal of Redundant Dummies

Original Diagram

Diagram after removal of redundant dummies

(a)  

(b)  

DR. Nabil Dmaidi
Removal of Redundant Dummies (cont.)

Original Diagram

Diagram after removal of redundant dummies

(c)

(d)
Combining Beginning and Ending Nodes
Combining Beginning and Ending Nodes (cont.)

(a) Incorrect Representation

(b) Correct Representation
Basic Rules of Network Logic

Rule 1.

Before an activity may begin, all activities preceding it must be completed. (Activities with no predecessors are self-actuating when the project begins.)

Rule 2.

Arrows imply logical precedence only. Neither the length of the arrow nor its “x” direction on the drawing have any significance. (An exception to this rule is discussed under “Time-scaled Networks”.)
Basic Rules of Network Logic (cont.)

Rule 3.

Event numbers must not be duplicated in a network.

Rule 4.

Any two events may be directly connected by more than one activity.

Rule 5.

Networks may have only one initial event (with no predecessor) and only one terminal event (with no successor).

Rule 6.

- Even, odd, in fives or tens
- Smaller numbers to the left

Each activity has its unique number
Retailing wall arrow diagram - start event approach

(a)

(b)
Footing 1
Footing 2
Wall 1

(c)
Footing 1
Footing 2
Wall 1
Wall 2

(d)
Footing 1
Footing 2
Wall 1
Wall 2

DR. Nabil Dmaidi
<table>
<thead>
<tr>
<th>No.</th>
<th>Activity</th>
<th>Depends upon</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strip room</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Repair walls and ceiling</td>
<td>1, 5, 7</td>
</tr>
<tr>
<td>3</td>
<td>Repair floor</td>
<td>1, 5</td>
</tr>
<tr>
<td>4</td>
<td>Lay vinyl floor</td>
<td>2, 12, 13, 14</td>
</tr>
<tr>
<td>5</td>
<td>Rough-in plumbing and electrical</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Finish plumbing and electrical</td>
<td>2, 3, 5, 9, 10, 11, 19</td>
</tr>
<tr>
<td>7</td>
<td>Replace existing fume duct</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Inst all new fume hood</td>
<td>2, 3, 16</td>
</tr>
<tr>
<td>9</td>
<td>Inst all 1/3 base cabinets</td>
<td>2, 3, 8, 15</td>
</tr>
<tr>
<td>10</td>
<td>Inst all wall cabinets</td>
<td>2, 3, 7, 15</td>
</tr>
<tr>
<td>11</td>
<td>Inst all chemical sink</td>
<td>2, 3, 5, 9, 17</td>
</tr>
<tr>
<td>12</td>
<td>Paint cabinets</td>
<td>6, 8, 9, 10, 11, 18</td>
</tr>
<tr>
<td>13</td>
<td>Paint walls and ceiling</td>
<td>2, 3, 6, 8, 9, 10, 18</td>
</tr>
<tr>
<td>14</td>
<td>Obtain vinyl floor covering</td>
<td>-</td>
</tr>
<tr>
<td>15</td>
<td>Obtain cabinets</td>
<td>-</td>
</tr>
<tr>
<td>16</td>
<td>Obtain fume hood</td>
<td>-</td>
</tr>
<tr>
<td>17</td>
<td>Obtain chemical sink</td>
<td>-</td>
</tr>
<tr>
<td>18</td>
<td>Painter availability</td>
<td>-</td>
</tr>
<tr>
<td>19</td>
<td>Inst all 2/3 base cabinets</td>
<td>2, 3, 9, 16</td>
</tr>
</tbody>
</table>
Arrow Diagram - Remodeling Chemical Laboratory