Fold each printed sheet in half lengthwise. The left side of the document will list the term and the right side will list the definition. Tape or staple the open edges of your flashcards. Cut out your flashcards on the solid lines indicated and fold them on the dotted lines.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Activation



Putting a resource to work.

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**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Alternate routing



A routing that is usually less preferred than the primary routing but results in an identical item. [This] may be maintained in the computer or off-line via manual methods, but the computer software must be able to accept alternate routings for specific jobs.

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**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Availability



The percentage of time that a worker or machine is capable of working. The formula is where S is the scheduled time and B is the downtime.

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**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Available time



The number of hours a work center can be used, based on management decisions regarding shift structure, extra shifts, regular overtime, observance of weekends and public holidays, shutdowns, and the like. See: capacity available, utilization.

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**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Budgeted capacity

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The volume/mix of throughput on which financial budgets were set and overhead/burden absorption rates established.

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**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Capacity

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1) The capability of a system to perform its expected function. 2) The capability of a worker, machine, work center, plant, or organization to produce output per time period. Capacity required represents the system capability needed to make a given product mix (assuming technology, product specification, etc.). As a planning function, both capacity available and capacity required can be measured in the short term (capacity requirements plan), intermediate term (rough-cut capacity plan), and long term (resource requirements plan). Capacity control is the execution through the I/O control report of the short-term plan. Capacity can be classified as budgeted, dedicated, demonstrated, productive, protective, rated, safety, standing, or theoretical. See: capacity available, capacity required. 3) Required mental ability to enter into a contract.

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**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Capacity available

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The capability of a system or resource to produce a quantity of output in a particular time period. Syn.: available capacity. See: capacity, available time.

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**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Capacity control

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The process of measuring production output and comparing it with the capacity plan, determining if the variance exceeds pre-established limits, and taking corrective action to get back on plan if the limits are exceeded. See: input/output control.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Capacity management

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The function of establishing, measuring, monitoring, and adjusting limits or levels of capacity in order to execute all manufacturing schedules (i.e., the production plan, master production schedule, material requirements plan, and dispatch list). [It] is executed at four levels: resource requirements planning, rough-cut capacity planning, capacity requirements planning, and input/output control.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Capacity planning

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The process of determining the amount of capacity required to produce in the future. This process may be performed at an aggregate or product-line level [...], at the master-scheduling level [...], and at the material requirements planning level [...]. See: capacity requirements planning, resource planning, rough-cut capacity planning.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Capacity required

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The capacity of a system or resource needed to produce a desired output in a particular time period. Syn.: required capacity. See: capacity.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Demonstrated capacity

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Proven capacity calculated from actual performance data, usually expressed as the average number of items produced multiplied by the standard hours per item. See: maximum demonstrated capacity.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Efficiency



A measurement (usually expressed as a percentage) of the actual output relative to the standard output expected. [This] measures how well something is performing relative to existing standards; in contrast, productivity measures output relative to a specific input (e.g., tons/labor hour). [It] is the ratio of (1) actual units produced to the standard rate of production expected in a time period, or (2) standard hours produced to actual hours worked (taking longer means less [of this]), or (3) actual dollar volume of output to a standard dollar volume in a time period. For example: (1) There is a standard of 100 pieces per hour and 780 units are produced in one eight-hour shift; [this] is 780 ÷ 800 converted to a percentage, or 97.5 percent. (2) The work is measured in hours and took 8.21 hours to produce 8 standard hours; [this] is 8 ÷ 8.21 converted to a percentage, or 97.5 percent. (3) The work is measured in dollars and produces $780 with a standard of $800; [this] is $780 ÷ $800 converted to a percentage, or 97.5 percent.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Idle capacity



The available capacity that exists on nonconstraint resources beyond the capacity required to support the constraint. [It] has two components: protective capacity and excess capacity.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Idle time



The time when operators or resources (e.g., machines) are not producing product because of setup, maintenance, lack of material, lack of tooling, or lack of scheduling.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Labor productivity



A partial productivity measure in which the rate of output of a worker or group of workers per unit of time is compared to an established standard or rate of output. [This] can be expressed as output per unit of time or output per labor hour. See: machine productivity, productivity.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Load

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The amount of planned work scheduled for and actual work released to a facility, work center, or operation for a specific span of time. Usually expressed in terms of standard hours of work or, when items consume similar resources at the same rate, units of production. Syn.: workload.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Load profile

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A display of future capacity requirements based on released and/or planned orders over a given span of time. Syn.: load projection. See: capacity requirements plan.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Machine center

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A production area consisting of one or more machines (and, if appropriate for capacity planning, the necessary support personnel) that can be considered as one unit for capacity requirements planning and detailed scheduling.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Machine loading

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The accumulation by workstation, machine, or machine group of the hours generated from the scheduling of operations for released orders by time period. [This] differs from capacity requirements planning in that it does not use the planned orders from MRP but operates solely from released orders. It may be of limited value because of its limited visibility of resources.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Manufacturing calendar

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A calendar used in inventory and production planning functions that consecutively numbers only the working days so that the component and work order scheduling may be done based on the actual number of workdays available. Syn.: M-day calendar, planning calendar, production calendar, shop calendar. See: resource calendar.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Planned load

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The standard hours of work required by planned production orders.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Productive capacity

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In the theory of constraints, the maximum of the output capabilities of a resource (or series of resources) or the market demand for that output for a given time period. See: excess capacity, idle capacity, protective capacity.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Productivity

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1) An overall measure of the ability to produce a good or a service. It is the actual output of production compared to the actual input of [resources, and] is a relative measure across time or against common entities (labor, capital, etc.). In the production literature, attempts have been made to define [its total] where the effects of labor and capital are combined and divided into the output. One example is a ratio that is calculated by adding the dollar value of labor, capital equipment, energy, and material, and so forth and dividing it into the dollar value of output in a given time period. This is one measure of [the total factor type of this.] See: efficiency, labor productivity, machine productivity, utilization. 2) In economics, the ratio of output in terms of dollars of sales to an input such as direct labor in terms of the total wages. Known as single factor productivity or partial factor productivity.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Rated capacity

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The expected output capability of a resource or system. Capacity is traditionally calculated from such data as planned hours, efficiency, and utilization. [This] is equal to hours available × efficiency × utilization. Syn.: calculated capacity, effective capacity, nominal capacity, standing capacity.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Routing

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1) Information detailing the method of manufacture of a particular item. It includes the operations to be performed, their sequence, the various work centers involved, and the standards for setup and run. In some companies, [this] also includes information on tooling, operator skill levels, inspection operations and testing requirements, and so on. Syn.: bill of operations, instruction sheet, manufacturing data sheet, operation chart, operation list, operation sheet, route sheet, routing sheet. See: bill of labor, bill of resources. 2) In information systems, the process of defining the path a message will take from one computer to another computer.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Scheduled load

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The standard hours of work required by scheduled receipts (i.e., open production orders).

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Standard time

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The length of time that should be required to (1) set up a given machine or operation and (2) run one batch or one or more parts, assemblies, or end products through that operation. Used in determining machine requirements and labor requirements. Assumes an average worker who follows prescribed methods, and allows time for personal rest to overcome fatigue and unavoidable delays. Also frequently used as a basis for incentive pay systems and as a basis of allocating overhead in cost accounting systems. Syn.: standard hours. See: standard.

**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Start date

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In project management, the time an activity begins; may be defined as [actual or planned].

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**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Theoretical capacity

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The maximum output capability, allowing no adjustments for preventive maintenance, unplanned downtime, shutdown, and so forth.

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**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Utilization

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1) A measure (usually expressed as a percentage) of how intensively a resource is being used to produce a good or service. Compares actual time used to available time. Traditionally, calculated as the ratio of direct time charged (run time plus setup time) to the clock time available. [It] is a percentage between 0 percent and 100 percent that is equal to 100 percent minus the percentage of time lost due to the unavailability of machines, tools, workers, and so forth. See: efficiency, lost time factor, productivity. 2) In the theory of constraints, activation of a resource that productively contributes to reaching the goal. Over-activation of a resource does not productively [use] a resource. See: available time.

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**Module 5**
*Section C: Creating Production and Service Schedules*

**Term**
Yield

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The amount of good or acceptable material available after the completion of a process. Usually computed as the final amount divided by the initial amount converted to a decimal or percentage. In manufacturing planning and control systems, [this] is usually related to specific routing steps or to the parent item to determine how many units should be scheduled to produce a specific number of finished goods. For example, if 50 units of a product are required by a customer and [this is expected to be 70 percent,] then 72 units (computed as 50 units divided by .7) should be started in the manufacturing process. Syn.: material yield. See: scrap factor, yield factor.

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