MASTER SCHEDULING MANAGER COMPETENCY MODEL





INTRODUCTION

Master scheduling managers are charged with the responsibility of managing, establishing, reviewing, and maintaining a master schedule for select items. These managers should have substantial product, plant, process, and market knowledge because their actions impact customer service, and material and capacity planning.

APICS The Association for Operations Management is the premier membership organization that provides education, certification, and career development opportunities to supply chain professionals worldwide. The APICS Certified in Production and Inventory Management (CPIM) coursework and corresponding certification gives professionals the knowledge and skills they need to succeed. Have knowledge and skills combined with professional experience create the competencies required for individuals to excel in their careers and distinguish themselves in their field. APICS developed the Master Scheduling Manager Competency Model to guide individuals considering careers in master scheduling, master scheduling management professionals seeking to advance their positions, and human resource managers who are hiring in this field.

ABOUT THE MODEL

The structure of the APICS Master Scheduling Manager Competency Model follows guidelines set by the Employment and Training Administration of the United States Department of Labor. The model is represented in a diagram on the next page for easy reference. The model is organized into tiers of competencies with descriptions of activities and behaviors associated with each competency. The Competency Model Clearinghouse defines competency as "the capability to apply or use a set of related knowledge, skills, and abilities required to successfully perform 'critical work functions' or tasks in a defined work setting." In most cases, the competencies outlined in this model are adapted from the APICS Operations Management Body of Knowledge (OMBOK) Framework.

ACKNOWLEDGEMENTS

The APICS Master Scheduling Manager Competency Model was a research project undertaken by staff in the Professional Development Division of APICS. They were supported by APICS members and customers who participated in survey research. APICS staff used public domain information obtained from the Competency Model Clearinghouse (www.careeronestop.org) to create the model.

Profession-related

Master Scheduling Manager Specific Requirements

includes requirements such as certification, licensure, and specialized educational degrees, or physical and training requirements for master scheduling managers.

- Postsecondary education
- Association membership
- Certifications

Master Scheduling Manager Knowledge Areas and Technical Competencies

represent the knowledge, skills, and abilities needed by master scheduling managers.

- Master planning
- Production planning
- Planning processes
- Sales and operations planning
- Demand management and forecasting
- Strategic sourcing and purchasing
- Capacity management

- Scheduling techniques
- Master production schedule and final assembly schedule
- Risk management
- Business and supply chain strategy*
- Marketing and sales strategy

Operations Management Knowledge Areas and Technical Competencies

represent the knowledge, skills, and abilities needed by all occupations within operations management, including master scheduling managers.

- Operations strategy
- Manufacturing process environments
- Standards (time measurement)
- Supply chain management
- Process improvement and six sigma
- Execution, planning, scheduling control
- Lean management
- Sustainability
- Enabling technology application

Workplace and Leadership Competencies

represent those skills and abilities that allow individuals to function in an organizational setting.

- Problem solving and decision making
- Teamwork and collaboration
- Accountability and responsibility
- Customer focus (internal and external)
- Planning and organizing
- Conflict management
- Supporting and training staff

Academic Competencies

are primarily learned in an academic setting, and include cognitive functions and thinking styles.

- Math, statistics, and analytical thinking
- Reading and writing for comprehension
- Applied science and technology
- Supply chain fundamentals

- Foundations of business management
- Materials management fundamentals
- Operations and enterprise economics

Personal Effectiveness Competencies

represent motives and traits as well as interpersonal and self-management styles and generally are applicable to a number of industries at a national level.

- Awareness of the needs of others
- Integrity
- Continuous learning

- Effective communication
- Interpersonal skills
- Creativity

^{*} Survey research indicates that these knowledge areas are especially useful for those in advanced roles.

FOUNDATIONAL COMPETENCIES

PERSONAL EFFECTIVENESS COMPETENCIES

Personal effectiveness competencies represent motives, traits, and interpersonal and self-management styles, and are applicable in any number of industries.

Awareness of the needs of others

- Understand other business needs and goals.
- Have perspective into other points of view.
- Build rapport and credibility with colleagues.
- Anticipate needs and respond to concerns and conflicts.

Integrity

- Demonstrate trustworthiness and professionalism with clients, peers, and team members.
- Respond with consistency in situations that require honesty and candor.
- Avoid conflicts between work and personal interests or activities.

Continuous learning

- Demonstrate an interest in personal learning and development; seek feedback from multiple sources about how to improve and develop; modify behavior based on feedback or self-analysis of past mistakes.
- Take steps to develop and maintain the knowledge, skills, and expertise necessary to achieve positive results; participate fully in relevant training programs and actively pursue other opportunities to develop knowledge and skills.
- Anticipate changes in work demands and participate in assignments or training that address these changing demands; treat unexpected circumstances as opportunities to learn.
- Engage in career development by identifying occupational interests, strengths, options, and opportunities; make insightful career planning decisions based on integration and feedback; seek out additional training to pursue career goals.

Effective communication

- Express information to individuals or groups that considers the audience and the nature of the information (for example, technical or controversial); speak clearly and confidently; organize information logically; speak using English conventions including proper grammar, tone, and pace; track and react appropriately to audience responses; use eye contact and nonverbal expression effectively.
- Receive, attend to, interpret, understand, and respond to verbal messages and other cues; pick out important information in verbal messages; understand complex instructions; appreciate the feelings and concerns behind verbal messages.
- Practice meaningful two-way communication by speaking clearly, paying attention, seeking to understand others, listening attentively, clarifying information, and attending to nonverbal cues and respond appropriately.
- Influence others; persuasively present thoughts and ideas; inspire commitment and ensure support for ideas.

Interpersonal skills

- Relate to clients, colleagues, and team members.
- Maintain a positive, supportive, and appreciative attitude.
- Actively listen to others and demonstrate understanding of different points of view.
- Create an open environment that encourages people to work together to solve problems and improve practices and services.
- Explore and resolve conflicts as they arise.
- Communicate clearly to avoid misunderstanding.

Creativity

- Demonstrate intellectual curiosity about why things are the way they are; challenge the status quo.
- Change, elaborate, adapt, and improve on ideas or those of others.
- Demonstrate a tendency toward action; materialize thoughts into products or services.

ACADEMIC COMPETENCIES

Academic competencies are primarily achieved in an academic setting and include cognitive functions and thought processes.

Math, statistics, and analytical thinking

- Practice applied mathematics in collecting and interpreting quantitative data.
- Demonstrate the ability to scrutinize and breakdown facts and thoughts into strengths and weaknesses.
- Develop the capacity to think in a careful and discerning way, to solve problems, to analyze data, and to recall and apply information.

Reading and writing for comprehension

- Understand what has been read; gather information from a text.
- Demonstrate an understanding of material read by forming opinions and sharing personal experiences.
- Apply the strategies of self-questioning, retelling, writing, summarizing, predicting and verifying, story mapping, role play, and responsiveness.

Applied science and technology

- Demonstrate an understanding of the factors that are considered important to the branch of knowledge or technology.
- Understand the use of technology and the interaction with life, society, and the environment, in conjunction with such subjects as industrial arts, engineering, applied science, and pure science.
- Develop knowledge of specific tools and how they affect the ability to adapt to and control the environment.
- Demonstrate the ability to apply knowledge or understanding to meet a specific, recognized need.
- Possess knowledge that is sufficiently general, clearly conceptualized, carefully reasoned, systematically organized, critically examined, and empirically tested with regard to the specific science or technology.

Supply chain fundamentals

- Understand that supply and logistics is a system of organizations, people, technology, activities, information, and resources involved in moving a product or service from supplier to customer.
- Possess basic knowledge of supply chain activities, including transformation of natural resources, raw materials, and components into a finished product that is delivered to the end customer.
- Recognize the ways that supply chains link value chains.

Foundations of business management

- Understand all management activities carried out in the course of running an organization, including controlling, leading, monitoring, adjusting, organizing, and planning.
- Analyze financial statements and explain the implications of standard financial ratios and all components of the balance sheet and income statement.
- Create interactive decision support models that demonstrate the sensitivity of outcome to multiple independent variables.
- Calculate project and organizational cash flow forecasts; present value investment comparisons and risk-adjusted return calculations.
- Demonstrate knowledge of visual presentation techniques including charting, histograms, and flow sheets, and oral and written presentation techniques.
- Practice basic business communications.
- Understand fundamental organizational behavior.

Materials management fundamentals

- Demonstrate knowledge of the operations management structure of the modern manufacturing and distribution company.
- Convert and communicate demand requirements for products and services into detailed plans and schedules for inventory acquisition.
- Calculate key inventory performance metrics such as turnover ratios, cost-benefit tradeoffs, days of inventory on hand, labor productivity, and inventory valuation.
- Calculate and apply the various costing and valuation methods to inventory management.
- Have detailed knowledge of manufacturing planning, master production scheduling, product definition, inventory control, materials requirements planning, capacity requirements planning shop floor control, warehousing, transportation, and purchasing business functions.
- Understand standard enterprise resource planning (ERP) and supply chain management (SCM) system technologies.
- Incorporate methods and techniques involved in lean and Just-in-Time (JIT) management.
- Implement new technologies.
- Be capable of performing human resource management functions.
- Participate in strategic planning and control development with senior management.
- Understand basic principles of sustainability, including reverse logistics, reworking product lines, and cutting operational energy costs.

Operations and enterprise economics

- Understand the importance of and demonstrate the ability to take raw materials or knowledge and convert it into a product or service that has more value to the customer than the original material or data.
- Determine the success or failure rate of a business using financial accounting, incorporating terms and techniques including income, expense, cost of goods sold, gross margin, balance sheet, return on assets, inventory turns, capital asset management, and cash management.
- Employ the technique of break-even analysis, which finds the break-even point, the volume at which revenues exceed total costs.
- Find the best operating level (BOL), the level of capacity a process was designed for. This is also the volume of output at which average unit cost is minimized.
- Use cost accounting systems to keep track of all costs of building products, labor, material, overhead, and variances. These systems include activitybased costing (ABC) and cost analysis and control.

WORKPLACE AND LEADERSHIP COMPETENCIES

Workplace competencies represent those skills and abilities that allow individuals to function in an organizational setting.

Problem solving and decision making

- Practice goal-directed thinking and action in situations for which no routine solutions exist.
- Understand a problem situation and its step-by-step transformation based on planning and reasoning.
- Demonstrate ability to choose between alternative courses of action using cognitive processes such as memory and evaluation.
- Demonstrate ability to map processes of possible consequences of decisions, to work out the importance of individual factors, and to choose the best course of action.

Teamwork and collaboration

- Demonstrate a commitment to the mission and motivation to combine the team's energy and expertise to achieve a common objective.
- Understand the dynamics of effective teamwork in order to attain higher levels of performance.
- Demonstrate ability to work as part of a tight-knit and competent group of people.
- Demonstrate a commitment to engage teams in other departments or divisions of the organization.

Accountability and responsibility

- Demonstrate a willingness to accept responsibility and accountability for one's actions.
- Exhibit a moral, legal, or mental accountability in areas of responsibility.
- Understand that these two workplace competencies are intertwined, and that both abilities must be present in order to succeed.

Customer focus (internal and external)

- Understand this is an organizational orientation toward satisfying the needs of potential and actual customers.
- Ensure that the whole organization, not just frontline service staff, puts customers first.
- Ensure all activities, from the planning of a new product to production, marketing, and after-sales care, are built around the customer.
- Understand that every department and every employee should share the same customer-focused vision.
- Practice good customer relations management and maintain a customer relations program.
- Demonstrate ability to balance the needs of the organization and the needs of the customer.

Planning and organizing

- Effectively plan what is to be achieved and involve all relevant staff members.
- Anticipate important or critical events, identifying resource requirements and assigning responsibility for specific work, including deadlines and performance expectations.
- Demonstrate the use of information-gathering techniques, analyzing situation and identifying implications in order to make correct decisions.
- Demonstrate ability to monitor progress and to make changes as required.
- Ensure that staff is aware they will be accountable for achieving the desired results through planned program evaluation and individual performance appraisal.
- Ensure that staff is provided with the necessary tools to succeed.

Conflict management

- Demonstrate ability to manage conflict by identifying and handling conflicts in a sensible, fair, and efficient manner.
- Demonstrate skill in effective communicating, problem solving, and negotiating with a focus on party interests.

Supporting and training staff

- Understand the importance of facilitating on-going professional development opportunities for staff.
- Assess training needs and identify means (for example, classes, mentoring, written materials) to fill skill gaps.
- Provide opportunities for staff to demonstrate leadership skills.
- Provide clear and meaningful performance evaluation.
- Encourage the development of skills that increase personal and departmental productivities.

PROFESSION-RELATED COMPETENCIES

OPERATIONS MANAGEMENT KNOWLEDGE AREAS AND TECHNICAL COMPETENCIES

Operations management knowledge areas and technical competencies represent the knowledge, skills, and abilities needed by all occupations within operations management, including master scheduling managers.

Operations strategy

- Ensure the alignment of the materials management strategy with the business strategies driving sales, marketing, finance, and manufacturing.
- Develop inventory and plant asset management strategy supportive of company investment and capital management plans.
- Demonstrate ability to consistently deliver products and services to meet customer needs.
- Develop strategic objectives that focus on areas of quality, cost, flexibility, productivity, and speed.
- Consistently search for methods to develop an agile and committed departmental workforce.

Manufacturing process environments

- Close understanding and practical knowledge of a company's manufacturing processes and equipment capabilities.
- Encourage a close working relationship between manufacturing and materials management personnel.
- Develop materials storage and delivery processes supportive of manufacturing operations.
- Assist manufacturing with process improvement and lean initiatives.
- Assist manufacturing management in the development of meaningful productivity and performance measurements.
- Understand the influence of demand on manufacturing process design.
- Ensure processes conform to both the needs of the customer base and the characteristic of the product.
- Ensure the continuous availability of quality materials and finished components.
- Understand output of materials requirement planning (MRP), capacity management, and advanced planning system technologies.

Standards (time measurement)

- Assist manufacturing engineering in the development of process productivity standards.
- Understand calculations for efficiency, utilization, and productivity.
- Demonstrate ability to calculate nominal and demonstrated productive capacities.

Supply chain management

- Demonstrate ability to manage the network of interconnected businesses involved in the ultimate provision of product and service packages required by end customers.
- Understand that supply chain management spans all movement and storage of raw materials, work-in-process inventory, and finished goods from pointof-origin to point-of-consumption.

Process improvement and six sigma

- Understand the systematic approach to closing of process or system
 performance gaps through streamlining and cycle time reduction, and identify
 and eliminate causes of quality below specifications, process variation, and
 non-value-adding activities.
- Maintain company processes that afford optimum operation and enhance the company's quality management system.
- Demonstrate ability to visualize the total process and aid in locating problem areas using process mapping, quality improvement, and visualization tools to locate, quantify, and correct root causes of problems.
- Perform periodic evaluations to maintain processes by gathering pertinent information such as problem symptoms from knowledgeable sources and carrying these through to the problems, potential causes, and root causes of the problem.
- Hold gains in process improvements by establishing key performance measurements, benchmarking metrics, and continuous process improvement initiatives to improve process quality on a continual basis.

Execution, planning, scheduling, and control

- Determine the need for material and capacity to address expected demand, execute the resulting plans, and update planning and financial information to reflect the results.
- Plan the management function by defining goals and the tasks and resources needed to attain those goals.
- Schedule a timetable of events and decide when and where certain events will occur.
- Control and check errors, taking any corrective action so that deviations from standards are minimized and stated goals of the organization are achieved in a desired manner.

Lean management

- Identify and reduce or eliminate waste in all areas of a supply chain.
- Calculate the total system cost of delivering a product or service to the customer.
- Develop systems that allow employees to produce results by:
 - Educating suppliers to create value for customers by streamlining processes in the value chain.
 - Using suppliers whose methods and core competencies will align with lean requirements and developing long-term relationships with them.
 - Reducing or entirely eliminating the cost of changing from one product or service to another.

Sustainability

- Understand current industry and government regulations governing sustainability.
- Be able to calculate carbon footprint of business processes.
- Develop processes that strive to eliminate waste.
- Incorporate renewable raw materials.
- Assemble an effective reverse logistics program.
- Pursue transportation alternative to reduce energy and emissions.
- Utilize safe and reusable containerization.
- Pursue paperless documentation.
- Coordinate shipping and freight to use full truckloads.
- Convert outputs to inputs; recycle end-products and components when possible.

Technology application

- Recognize that continuous process improvement is an accepted way of life in business and that few companies lack a continuing quality or process improvement effort.
- Implement improvement methods such as business process reengineering, total quality management (TQM), six sigma, lean manufacturing, and theory of constraints (TOC).
- Understand that technology and process functionality has an interconnected relationship and that each helps transform the other.
- Initiate process improvements that are enabled and supported by technology.

MASTER SCHEDULING MANAGER KNOWLEDGE AREAS AND TECHNICAL COMPETENCIES

Master scheduling manager knowledge areas and technical competencies represent the knowledge, skills, and abilities needed by master scheduling managers.

Master planning

- Be capable of translating the production plan into a time-phased build schedule.
- Understand how to work with planning bills of material.
- Understand the planning requirements for managing make-to-stock, make-to-order, assemble-to-order, and engineer-to-order manufacturing environments.
- Understand the concept of forecast consumption by actual sales orders.
- Establish the demand and planning time fences.
- Establish policies for time fence management.
- Have knowledge of performing cumulative lead time analysis.
- Understand the mechanics of the master schedule calculation logic.
- Understand the tasks in managing available-to-promise and capable-to-promise portion of the master schedule.
- Be capable of scheduling demand based on the product mix.
- Understand the role of managing safety stock in the master schedule.
- Manage schedule changes through system generated action messages.
- Utilize the rough-cut capacity plan.
- Assemble master schedule reporting regarding performance to the business plan, the shipment plan, the inventory plan, and the production plan.

Production planning

- Be capable of establishing a manufacturing planning department that consists of master scheduling, production planning, and open manufacturing order management.
- Understand the sales and operations planning (S&OP) process.
- Understand the relationships between the production plan, sales plan, and overall business plan.
- Identify current planned level of demand and create tactical production plans to meet the identified customer demand.
- Have knowledge of the various methods to establish and work with bills of material (BOMs).
- Calculate production lead times.
- Understand scheduling techniques utilizing forward scheduling and backward scheduling.
- Have knowledge of techniques to manage infinite loading and finite loading.
- Have knowledge of how to manage load leveling and bottleneck scheduling.
- Have knowledge of theory of constraints (TOC) and drum-buffer-rope scheduling methods.
- Analyze production floor status through input/output control reporting.
- Effectively analyze whether inventories need to be maintained, increased, or decreased.
- Coordinate information with other functional staff, including sales, engineering, accounting, finance, marketing, and human resources.
- Establish reporting to determine labor and productivity performance statistics.

Planning processes

- Posses detailed knowledge of integrating production and materials planning with the business plan.
- Possess a full understanding of modern planning concepts and practices.
- Be capable of utilizing spreadsheet and ERP-type software in managing the planning process.
- Understand the discipline of planning, organizing, and managing resources to bring about the successful completion of specific project goals and objectives.
- Be capable of defining an effective project plan.
- Define the project resources such as money, people, materials, and space, and the milestones and specific outcomes.

Sales and operations planning (S&OP)

- Be able to defining S&OP.
- Effectively communicate the operational perspective in cross-functional meetings.
- Be capable of explaining the structure and logic of the S&OP process.
- Be capable of explaining the components of the S&OP process.
- Be capable of establishing an S&OP program, defining operating procedures, and establishing an S&OP planning team from different parts of an organization.
- Be able to work effectively with other members of the S&OP team.
- Be able to assemble the data necessary to run the S&OP process.
- Possess detailed knowledge of how to calculate the S&OP plan output.
- Evaluate output and propose changes to the S&OP plan.
- Be capable of working with S&OP in different manufacturing environments.
- Integrate S&OP with financial output.
- Communicate plan changes to production and inventory planning.

Demand management and forecasting

- Understand the principles and applications of demand forecasting.
- Have knowledge of the critical requirements for effective forecasting: establishing time horizons, determining the level of forecasting detail, and determining the forecastable database.
- Be capable of establishing policies and procedures to ensure forecast control.
- Have knowledge of the three forecasting techniques: judgmental (qualitative) forecasts, quantitative (time-series) forecasts, and causal (extrinsic) forecasting.
- Be able to discuss and work with time-series analysis in forecast data preparation.
- Be able to apply time-series methods to work with horizontal, random, seasonal, trend, and cyclical.
- Understand subjective, causal, and time-series forecasting methods including:
 - Averages.
 - Time series (exponential smoothing).
 - Trend.
 - · Seasonality.
 - Regression models.
 - · Focus forecasting.
- Establish key performance indicators of forecast accuracy.
- Define the purpose of the forecast.
- Prepare the statistical components.
- Be capable of determining forecast error.
- Ensure the interaction of a firm's functional managers, and track and maintain the forecast through timely and accurate feedback.

Strategic sourcing and purchasing

- Effectively locate and source key materials suppliers, while analyzing the total cost associated with procuring an item or service.
- Focus on developing and maintaining long-term relationships with trading partners who can help the purchaser meet profitability and customer satisfaction goals.
- Integrate automation of request for quote (RFQ), request for proposal (RFP), electronic auctioning, business-tobusiness (B2B) commerce, and contract management processes when using a strategic sourcing approach.
- Establish methods of meeting customer satisfaction goals.

Capacity management

- Understand capacity management relationship to MRP.
- Work with work center input and output loading.
- Establish, measure, monitor, and adjust capacity levels to execute all manufacturing schedules.
- Determine available capacity before planned orders are released.
- Engage in capacity management during sales and operations planning, master scheduling, materials requirements planning, and production activity control.
- Use backward scheduling to simulate the loading of work centers based on the priority plan for an end item and its components as determined during MRP.
- Establish load profiles to graphically compare each work station's available capacity to the load established by the planned and released orders for each time period of the plan.
- Resolve differences between work station loads and available capacity.
- Measure the utilization and efficiency of work stations.

Scheduling techniques

- Understand how to implement and determine the appropriate scheduling technique to control capacity at work centers:
 - · Finite scheduling.
 - Infinite scheduling.
 - Forward scheduling.
 - · Backward scheduling.

Master production schedule (MPS) and final assembly schedule

- Understand the concept of master scheduling.
- Develop the master schedule from the production plans.
- Calculate the gross requirements from forecasts and customer orders
- Calculate projected available balances.
- Calculate net requirements.
- Determine available-to-promise.
- Have the ability to interpret system action messages.
- Develop resource and load profiles for rough-cut capacity planning.
- Interpret rough-cut capacity output.
- Construct assemble-to-order planning bills.
- Develop a time fence policy to control the amount of change that can occur within a predefined area of the planning horizon to help stabilize the MPS.
- Reserve a portion of capacity in MPS for unplanned events.

Risk management

- Accurately identify risks that affect supply, transformation, delivery, and customer demand.
- Effectively analyze the probability, control, and impact of identified risks.
- Develop strategies for dual sourcing, buffering, forward buying, and others that minimize financial impact uncertainties such as yields, timing, pricing, and catastrophic events.

Business and supply chain strategy*

- Analyze the company's external and internal environments to identify promising strategic options for the company.
- Analyze the principle competing pressures in your market.
- Develop reliable estimates of competitor resources and strategic plans in order to anticipate next moves and to avoid being surprised.
- Determine an enterprise's key success factors (those things a company needs to "get right" to be successful).
- Assess your company's current strategy by examining your competitive approach using quantitative and other performance measures.
- Conduct a SWOT (strengths, weaknesses, opportunities, and threats)
 analysis to understand the company's overall business health and
 sustainability and to determine preliminary recommendations for actions to
 improve its market position and profitability.
- Develop a competitive strategy using the knowledge gained about your industry's prospects and your competitive strengths and weaknesses compared to rivals.

^{*}Survey research indicates that these knowledge areas are especially useful for those in advanced roles.

Marketing and sales strategy*

- Determine where the market is for your products and services in the market life cycle and strategy evolution.
- Determine a competitive strategy (localized, multicountry, global, or hybrid) and a market entry strategy (export, licensing, franchising, strategic alliances, and joint ventures) to address how your organization will choose to compete globally.
- Use customer relationship management software to understand the customer database
- Develop forecasts.

^{*}Survey research indicates that these knowledge areas are especially useful for those in advanced roles.

OCCUPATION-RELATED COMPETENCIES

MASTER SCHEDULING MANAGER SPECIFIC REQUIREMENTS

Master scheduling manager specific requirements include certification, licensure, and specialized educational degrees, or physical and training.

Post secondary education

- The majority of master scheduling management professionals hold post secondary degrees — a bachelor's or equivalent.
- While a number of master scheduling management professionals have degrees related to supply chain or operations management, the majority hold degrees in other fields including, but not limited to, business, economics, engineering, or liberal arts studies.

Association membership

Professional association membership ensures that the master scheduling management professional is able to link into a network of practitioners to share best practices, develop their careers, and continue their professional education. There are a number of supply chain associations related to specific industries including but not limited to:

- APICS The Association for Operations Management (APICS)
- Institute of Supply Management (ISM)
- Supply Chain Council (SCC)
- Council of Supply Chain Management Professionals (CSCMP)

Certifications

Once the professional is in the workplace, it is desirable to obtain a master scheduling management related certification. While there are a number of supply chain and operations management certifications related to specific industries, general certifications include:

- APICS Certified in Production and Inventory Management (CPIM).
- APICS Certified Supply chain Professional (CSCP).

ABOUT APICS

APICS is the leading professional association for supply chain and operations management and the premier provider of research, education and certification programs that elevate end-to-end supply chain excellence, innovation and resilience. APICS Certified in Production and Inventory Management (CPIM) and APICS Certified Supply Chain Professional (CSCP) designations set the industry standard. With over 37,000 members and more than 250 international partners, APICS is transforming the way people do business, drive growth and reach global customers.