# APICS Certified in Logistics, Transportation and Distribution (CLTD) Learning System

This product is based on the APICS CLTD *Exam Content Manual (ECM)* developed by APICS. Although the text is based on the body of knowledge tested by the APICS CLTD exam, program developers do not have access to the exam questions. Therefore, reading the text does not guarantee a passing score.

The references in this manual have been selected solely on the basis of their educational value to the APICS CLTD certification program and on the content of the material. APICS does not endorse any services or other materials that may be offered or recommended by the authors or publishers of books and publications listed in this module.

Every effort has been made to ensure that all information is current and correct. However, laws and regulations are constantly changing. Therefore, this product is distributed with the understanding that the publisher and authors are not offering legal or professional services.

## Acknowledgments

We would like to thank the following dedicated subject matter experts who shared their time, experience, and insights during the initial development and subsequent updates of the CLTD Learning System:

Patricia Allred Dr. Yemisi Bolumole, PhD, CTL Blake Bowlin Freek Brilleman, CLTD, MSc in International Logistics Jim Caruso, CPIM, CSCP Sherman S.W. Cheung, CPIM, CLTD, cIPS, CITT, BBA, BEng, MBA Eric Copeland Jerry Critchfield, CSCP Paul Denneman, CPIM CSCP CLTD CTSC Mohannad Diab, CSCP, CLTD Peter Dill Brent Goddard Tim Griesgraber, CSCP

Mark C. Hardison, CPIM-F, CSCP Kathy Himes, CSCP Dr. Mary Holcomb, PhD Clifford Lee, CPIM Giuseppe Lovecchio, CPIM-F, CSCP-F, CLTD-F, CTSC, SCOR-P, PMP, CMC Bruce McMahon, CPIM Kevin J. Meyers, CSCP, CPIM, CIRM Tricia Mims Gerard O'Brien Francesco Parrella Melinda Patterson Pierantonio Pierobon, EMBA, CPIM, CSCP, CLTD, SCOR-P, CTSC Curt Reynolds Cobus Rossouw Zulkhairi Saharuddin, CSCP Colin Seftel, BSc(Eng) CPIM-F CSCP CLTD DDPP Joseph F. Shedlawski, CPIM, CLTD Darren Smith Gary Smith, CPIM-F, CSCP Janet Steiner, CPIM, CSCP, CLTD David (Te-Mao) Tsai, CSCP-F, CPIM-F, CLTD-F, CTSC, lifetime CPM Rene van Luxemburg William T. Walker, CPIM-F, CSCP-F, CLTD-F, CIRM

# **Intellectual Property and Copyright Notice**

All printed materials in the APICS CLTD Learning System and all material and information in the companion online component are owned by APICS and protected by United States copyright law as well as international treaties and protocols, including the Berne Convention. The APICS CLTD Learning System and access to the CLTD interactive web-based components are for your personal educational use only and may not be copied, reproduced, reprinted, modified, displayed, published, transmitted (electronically or otherwise), transferred, sold, distributed, leased, licensed, adapted, uploaded, downloaded, or reformatted.

In addition to being illegal, distributing CLTD materials in violation of copyright laws will limit the program's usefulness. APICS invests significant resources to create quality professional development opportunities for its membership. Please do not violate APICS' intellectual property rights or copyright laws.

No portion of this publication may be reproduced in whole or in part.

APICS will not be responsible for any statements, beliefs, or opinions expressed by the authors of this publication. The views expressed are solely those of the authors and do not necessarily reflect endorsement by APICS.

Version 3.0 © 2025 APICS APICS 8430 W. Bryn Mawr Ave., Suite 1000 Chicago, IL 60631

# APICS Certified Supply Chain Professional (CSCP) Learning System

This product is based on the APICS CSCP Exam Content Manual (ECM) developed by APICS. Although the text is based on the body of knowledge tested by the APICS CSCP exam, program developers do not have access to the exam questions. Therefore, reading the text does not guarantee a passing score.

The references in this manual have been selected solely on the basis of their educational value to the APICS CSCP certification program and on the content of the material. APICS does not endorse any services or other materials that may be offered or recommended by the authors or publishers of books and publications listed in this module.

Every effort has been made to ensure that all information is current and correct. However, laws and regulations are constantly changing. Therefore, this product is distributed with the understanding that the publisher and authors are not offering legal or professional services.

## Acknowledgments

We would like to thank the following dedicated subject matter experts who shared their time, experience, and insights during the initial development and subsequent updates of the CSCP Learning System:

Greg P. Allgair Celeste Ayers, CFPIM, CSCP Curtis Brewer, CFPIM, CIRM, CSCP Jashobrata Bose, CSCP Al Bukey, CFPIM, CIRM, CSCP Jesús Campos Cortés, CPIM, CIRM, CSCP, PLS, C.P.M., CPSM, PMP, PRINCE2, CQIA, CEI, CPF, CS&OP, CA-AM Luc Chalmet, Ph.D, CFPIM, CSCP Prashant Choudhary, CSCP David N. Dadich, CSCP, LSS Blackbelt Prasanta K. Dash, CSCP, PMP Sudripto De, CSCP Arnaud Deshais, CPIM, CIRM, CSCP, CPM, CPSM Alan Downs, CPIM, CSCP Ralph G. Fariello, CFPIM, CIRM, CSCP Sue Franks, CPIM-F, CSCP-F, CLTD-F Laura E. Gram, CSCP Janice M. Gullo, CFPIM, CSCP Amit Kumar Gupta, BE, CSCP Debra Hansford, CFPIM, CIRM, CSCP, CPSM Marwa Hassan Aburahma, MCIPS, CSCP, SCOR-P, CMILT Joni Holeman, CFPIM, CIRM, CSCP Eric P. Jack, Ph.D., CFPIM, CSCP

Rajesh Kumar Jagadeeswaran, CPIM. CSCP Dave Jankowski, CFPIM, CSCP Julie Jenson, CPIM, CSCP Honey Johnson, CFPIM, CIRM, C.P.M., CSCP Rajesh Kamat, CSCP Prakash Kanagalekar, CPIM, CSCP Jack Kerr, CPIM, CSCP, C.P.M. Iose Lara Paul S. Lim, CPA, CSCP, CPIM, PMP Mike Loughman, CSCP Giuseppe Lovecchio, CFPIM, CSCP Thiagu Mathan, CSCP Roberta McPhail, CPIM, CIRM, CSCP, PMP Richard Merritt, CFPIM, CSCP, C.P.M. Steven J. Miller, CSCP Alan L. Milliken, CFPIM, CIRM, CSCP Paulo Mondolfo, CPIM, CSCP Peter W. Murray, CIRM Eric-Stephan Neill, CSCP, CLTD, PMP Mike Okrent, Ph.D., CIRM, CSCP Roberto (Jake) Ordonez, CSCP, CQA, CTL, PLS, MPS, SCPro1 Kasthuri Rengan Ponnambalam, CSCP Gautam Chand Pradhan, CPIM, CSCP Ho Dong Rhee, CSCP

David Rivers, CFPIM, CIRM, CSCP Maryanne Ross, CFPIM, CIRM, CSCP Kimber Rueff, CPIM, CIRM, CSCP, C.P.M. Frank Sabin, Ph.D., CSCP Ignacio Sánchez-Chiappe Carolyn Sly, CPIM, CSCP, C.P.M. Liezl Smith, CPIM, CIRM, CSCP, ACPF, CDDP Pam Somers, CPIM, CIRM, CSCP Chad Stricklin Shashank Tilak, CPIM, CSCP Ken Titmuss, CFPIM, CSCP, SCOR-P, CPF, PLS, CS&OP, CDDP, CSCA, CDDL Huan-Jau (Arthur) Tseng, CFPIM, CSCP Dave Turbide, CFPIM, CIRM Sudeep Valmiki, CSCP Rob Van Stratum, CPIM, CIRM, CSCP Rosemary Van Treeck, CPIM, CIRM. CSCP Wout Verwoerd, CFPIM, CIRM, CSCP, SCOR-P Robert Vokurka, Ph.D., CFPIM, CIRM, CSCP, C.P.M. Eddie J. Whitfield, CPIM, CIRM, CSCP Vivek Wikhe, CSCP Blair Williams, Jonah, CFPIM, CSCP

### **Technical Contributors to the SCOR Digital Standard**

ASCM would like to extend our gratitude to the following subject matter experts for their technical contributions, time commitment, expertise, and passion to the continued development of the SCOR Digital Standard (DS). The development of SCOR depends on the support and input of SCOR practitioners, supply chain subject matter experts, and ASCM members. The following individuals have devoted time and effort to the development of the SCOR DS. We would also like to specially recognize the SCOR DS Facilitators for leading this update, as well as their task force volunteers who actively assisted throughout the SCOR DS 2022 update. Thank you!

#### **SCOR Update Facilitators**

Nishat Ahmed, CPIM, CIRM, CSCP, CLTD, SCOR-P, CTL

M.C. Dean Inc.

#### Ayman Assaad, MBA, CSCP-F, SCOR-P

Pass Consulting Group Inc

# Cynthia Kalina-Kaminsky, Ph.D., CPIM, CSCP, CLTD, SCOR-P

**Process & Strategy Solutions** 

#### Monica Lammert, CPIM, CSCP, SCOR-P

OpEx Consulting

#### SCOR DS Update Task Force Members

#### May Abou Ghannam, CSCP, SCOR-P

Muhakat

#### Seif El Adwar

Symbios Consulting

#### **Christine Barnhart, CPIM**

#### Zach Bennett

Visual Enterprise Architecture

#### Jac Braat, SCOR-P

Jac Braat Advies

#### John Choate

L&T Technology Services, LLC

#### Samer Majdi Almadhoun, CSCP, CLTD, SCOR-P

Muhakat

#### Jolanda Pretorius, CSCP, SCOR-P

End2end Supply Chain Academy and Consulting

#### MJ Schoemaker, CSCP, CPF

ProsecE2E Pty Ltd

#### **Dennis Vegter**

Ziequa.nl

#### John Danley, CPIM, CSCP, CLM, CDDP

Spirit Aerosystems

#### Madhav Durbha, Ph.D.

Coupa Software

#### Nader Edward, SCOR-P

#### CAPITER

Mostafa EI-Saify, CPIM, CLTD, SCOR-P

#### CAPITER

Frederic Gaurier, CPIM, CSCP, SCOR-P Trencadis

#### **Steve Georgevitch**

Boeing

#### Damodar Vishwanath Hegde, M Sc, MBA

Coca-Cola Europacific Partners

Hugues G. Hénault, CPIM, LSSBB, SCOR-P, DDP

Trencadis

#### **Glenn Heywood**

PWC

#### Lan Huang, CPIM

POLY

Eng. Mohammed Walid Itani, CSCP, SCOR-P, MBA, DESM, MM SCM, CPES, PMP, CDDP, DDPP

SCELTIC Consulting Solutions

Ken Jacobsen

Stepan Kobzyev, SCOR-P, SCPro1

Vicky Koo, SCOR-P

Vizilog Asia Ltd.

#### Derk Kuiper, CPIM-F, CSCP, CLTD, SCOR-P

Visie Partners B.V.

#### **Dharmesh Kumar, SCOR-P**

Amazon.com

#### Rosario Landa, CPIM, CSCP

Anahuac University

#### Thomas Lang, SCOR-P

LMI

Amy LeBaron, CPIM, CSCP, SCOR-P

#### Dr. Ron Lembke, Ph.D.

University of Nevada, Reno

Changjian Li, SCOR-P

Midea Group

Giuseppe Lovecchio, CPIM-F, CSCP-F, CLTD-F, SCOR-P, DDPP, DDLP, PMP

Lovecchio Consulting

Edwin Omaso Machio, CSCP, SCOR-P, MA, MCPIS

# Daryll Mascarenhas, SCOR-P Royal FrieslandCampina Mohini Moharir, CSCP

University of Illinois at Chicago

#### **Russell Molokoane, SCOR-P**

Transnet SOC Ltd.

#### David Morrow, Ph.D., CPIM-F, SCOR-P

Supply Chain Engineers

#### Shereen Mosallam

Symbios Consulting Group

# Omar Moya, CPIM, CSCP, CLTD, SCOR-P, DDPP, DDLP

SCEC

#### Jaggi Nagasundaram

The Boeing Company

#### Clement Ngombo, CSCP, SCOR-P, PharmD

BeForService Consulting and Training

#### Gisele Nogueira, CPIM

Stora Enso

#### James Nsoh, CSCP, SCOR-P

Oluwatayo Okorie, SCOR-P Hayat Kimya Ted Olaye, CSCP, MBA Deloitte

© ASCM 2022. All rights reserved.

Hector Oviedo, CSCP, SCOR-P

ASCM Monterrey Chapter

Dr. Xiaohu (Tiger) Qiao, CPIM, CSCP, SCOR-P

ODL

John Reboulet, PMP

Deloitte Consulting LLC

Anne G. Robinson, Ph.D.

Kinaxis

#### Henry Soo, CPIM, CSCP, CLTD, SCOR-P

DataDevelop Consulting Ltd

#### Bruno Stefanutti, CPIM, CSCP, CLTD, SCOR-P

Consept

Emanuele Strada THINKING SOLUTIONS SAGL Stephanie Thomas University of Arkansas Nicolas Vareillas, CPIM-F, CSCP Festo Didactic France Spyridon Xenos, SCOR-P

PowerStop, LLC

Muizzuddin Yaqeen, SCOR-P United Nations

### **ASCM Subject Matter Expert Staff Contributors**

Fernanda Debellian, CSCP, CLTD, SCOR-P Carolyn Lawrence, SCOR-P Nisha Shah, SCOR-P Grant Swanepoel, SCOR-P Jason Robke, SCOR-P

xviii