



Health and Humanitarian Systems

2025 Professional Certificate Program in Health & Humanitarian Supply Chain Management (HHSCM)

Course Instructors:

- [Dr. Ozlem Ergun](#), Professor of Mechanical and Industrial Engineering, Northeastern University; Co-founder, Center for Health & Humanitarian Systems (CHHS)
- [Dr. Pinar Keskinocak](#), William W. George Chair, Stewart School of Industrial & Systems Engineering and ADVANCE Professor, College of Engineering, Georgia Tech; Co-founder and Director, Center for Health & Humanitarian Systems (CHHS)
- [Dr. Julie Swann](#), Department Head and the A. Doug Allison Distinguished Professor in the Fitts Department of Industrial and Systems Engineering at NC State; Co-founder, Center for Health & Humanitarian Systems (CHHS)
- [Dr. Dima Nazzal](#), Director of Education and Projects, Center for Health & Humanitarian Systems (CHHS), Principal Academic Professional, Stewart School of Industrial & Systems Engineering, Georgia Tech
- [Dr. Paulo Gonçalves](#), Professor of Management, Università della Svizzera italiana, Founder and Director of the Master in Humanitarian Logistics and Management (MASHLM) and Master in Humanitarian Operations and Supply Chain Management (MASHOM), Università della Svizzera italiana

Please note that all times are in Eastern Daylight Time (EDT).

HHSCM Program Introduction

Monday 7/21:

10:00 –11:30 am	Canvas platform introduction session
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Monday 8/25:

10:00 –11:30 am	Canvas platform introduction make-up session
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Thursday 8/28:

10:00 –12:00 pm	Program introduction and supply chain overview (Keskinocak)
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Friday 8/29:

10:00 – 11:30 am	Excel solver introduction
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Course 1: Responsive Supply Chain Design and Operations

September 8-12

Monday 9/8:

10:00 – 11:30 am	Supply Chain Optimization Overview (Ergun)
11:30 – 11:45 am	Break
11:45 am – 1:15 pm	Distribution & Network Design, Multi Commodity Network Flows, Time Expanded Networks, Bottlenecks (Ergun)
1:15 – 1:30 pm	Q&A / Extra Time

Tuesday 9/9:

10:00 – 11:30 am	Introduction to Forecasting (Swann)
11:30 – 11:45 am	Break
11:45 am – 1:15 pm	Forecasting (Swann)
1:15 – 1:30 pm	Q&A / Extra Time

Wednesday 9/10:

10:00 – 11:00 am	Distribution & Network Design Time Expanded Networks, Bottlenecks (Ergun)
11:00 – 11:15 am	Break
11:15 – 1:15 pm	Managing Uncertainty (Ergun)
1:15 – 1:30 pm	Q&A / Extra Time

Thursday 9/11:

10:00 – 11:30 am	Infectious Disease Modeling to Inform Intervention or Resource Allocation Decisions – Examples from Covid-19 (Swann & Keskinocak)
11:30 – 11:45 am	Break
11:45 am – 1:10 pm	Allocating Scarce Medical Staff to Long-Term Care Facilities in response to COVID-19 Case (Ergun)
1:10 – 1:40 pm	Assessment/Evaluation

Friday 9/12:

10:00 am – 1:00 pm	Optional extra time / Office Hours
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Preparation for Courses 2 & 3

September 15-19

Teams will be assigned by Thursday, 9/18. Please reserve these times to work with the instructors and your team on pre-course assignments and course work. Attendance is required.

Monday 9/15:

10:00 am – 1:00 pm	Course 2 & 3 Preparation
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Tuesday 9/16:

10:00 am – 1:00 pm	Course 2 & 3 Preparation
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Wednesday 9/17:

10:00 am – 1:00 pm	Course 2 & 3 Preparation
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Thursday 9/18:

10:00 am – 1:00 pm	Course 2 & 3 Preparation
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Course 2: Inventory Management and Resource Allocation in Supply Chains September 22-26

Monday 9/22:

10:00 – 11:30 am	Intro to Inventory Management (Swann)
11:30 – 11:45 am	Break
11:45 am – 12:45 pm	Single-period inventory decisions under uncertainty (Newsvendor) (Swann)
12:45 – 1:15 pm	Introduction to Economic Order Quantity (EOQ) Models (Swann)
1:15 – 1:30 pm	Q&A / Extra Time

Tuesday 9/23:

10:00 – 11:30 am	Introduction to Warehousing: Flow, Space, Time (Guest lecture: Dima Nazzal)
11:30 – 11:45 am	Break
11:45 am – 2:00 pm	Big Depot/game (Keskinocak)

Wednesday 9/24

10:00 – 11:00 am	Multi-period inventory decisions under uncertainty (Q, R) (Swann)
11:00 – 11:15 am	Break
11:15 am – 12:30 pm	Multi-period inventory decisions under uncertainty (Q, R)
12:30 – 12:45 pm	Break
12:45 – 1:30 pm	Managing Pharmaceutical Supply Chains under Disruption (Ergun)

Thursday 9/25:

10:30 am – 12:15 pm	Malaria game (Keskinocak)
12:15 – 12:30 pm	Break
12:30 – 1:10 pm	Network Design & Pooling (Swann)
1:10 – 1:40 pm	Assessment/Evaluation

Friday 9/26:

10:00 am– 1:00 pm	Optional extra time / Office Hours
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Course 3: Systems Operations and Strategic Interactions in Supply Chains September 29-Oct 3

Monday 9/29:

10:00 – 11:00 am	Intro to Collaboration & Coordination (Swann)
11:00 – 11:30 am	Intro to Game Theory (Swann)
11:30 – 11:45 am	Break
11:45 am – 12:15 pm	Game Theory (Swann)
12:15 – 1:15 pm	Supply Chain Network Game (Swann)
1:15 – 1:30 pm	Q&A / Extra Time

Tuesday 9/30:

10:00 – 11:30 am	Supply Chain Network Game (Swann)
11:30 – 11:45 am	Break
11:45 am – 1:15 pm	Supply Chain Network Game (Swann)
1:15 – 1:30 pm	Q&A / Extra Time

Wednesday 10/1:

10:00 – 11:00 am	Performance Measurement (Swann)
11:00 – 11:15 am	Break
11:15 am – 1:15 pm	System Dynamics (Guest lecture: Dr. Paulo Goncalves, University of Lugano)
1:15 – 1:30 pm	Q&A / Extra Time

Thursday 10/2:

10:00 – 12:30 pm	System Dynamics (Goncalves)
12:30 – 12:45 pm	Break
12:45 – 1:15 pm	Assessment/Evaluation

Friday 10/3:

10:00 am– 1:00 pm	Optional extra time / Office Hours
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