Health and Humanitarian Systems

2027 Professional Certificate Program in
Health & Humanitarian Supply Chain Management (HHSCM)

Course Instructors:

- **Dr. Mathieu Dahan**, Associate Professor, H. Milton Stewart School of Industrial and Systems Engineering, Georgia Tech
- **Dr. Ozlem Ergun**, Professor of Mechanical and Industrial Engineering, Northeastern University; Co-founder, Center for Health & Humanitarian Systems (CHHS)
- **Dr. Pinar Keskinocak**, H. Milton and Carolyn J. Stewart School Chair and Professor, Georgia Tech; Co-founder, Center for Health & Humanitarian Systems (CHHS)
- **Dr. Dima Nazzal**, Associate Chair for Academic Administration, H. Milton Stewart School of Industrial and Systems Engineering, Georgia Tech; Director of Education and Projects, Center for Health & Humanitarian Systems (CHHS)
- **Dr. Julie Swann**, Department Head and the A. Doug Allison Distinguished Professor, Fitts Department of Industrial and Systems Engineering, NC State; Co-founder, Center for Health & Humanitarian Systems (CHHS)

Guest Speaker:

- **Dr. Paulo Gonçalves,** Professor of Management, Universittà 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), Universittà della Svizzera italiana

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

HHSCM Program Introduction

Monday 3/1:

10:00 –11:30 am	**Canvas platform introduction**

Thursday 3/4:

10:00 –12:00 pm	**Program introduction and supply chain overview (Keskinocak)**

Friday 3/5:

10:00 – 11:30 am	**Excel solver introduction**

Course 1: Responsive Supply Chain Design and Operations

March 8th – 12th

Monday 3/8:

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 3/9:

10:00 – 11:30 am	Distribution & Network Design Time Expanded Networks, Bottlenecks (Ergun)
11:30 – 11:45 am	Break
11:45 am – 1:15 pm	Introduction to Forecasting (Nazzal)
1:15 – 1:30 pm	Q&A / Extra Time

Wednesday 3/10:

10:00 – 11:30 am	Managing Uncertainty (Ergun)
11:30 – 11:45 am	Break
11:45 – 1:15 pm	Distribution Network Design Under Uncertainty (Dahan)
1:15 – 1:30 pm	Q&A / Extra Time

Thursday 3/11:

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	Logistics Operations Under Disruptions (Dahan)
1:10 – 1:40 pm	Assessment/Evaluation

Friday 3/12:

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

Preparation for Courses 2 & 3

March 15th – 18th

Teams will be assigned by Thursday, 3/12. Please reserve these times to work with the instructors and your team on pre-course assignments and coursework. Attendance is required.

Monday 3/15:

10:00 am – 1:00 pm	**Course 2 & 3 Preparation**

Tuesday 3/16

10:00 am – 1:00 pm	**Course 2 & 3 Preparation**

Wednesday 3/17:

10:00 am – 1:00 pm	**Course 2 & 3 Preparation**

Thursday 3/18:

10:00 am – 1:00 pm	**Course 2 & 3 Preparation**

Course 2: Inventory Management and Resource Allocation in Supply Chains

March 22nd – 26th

Monday 3/22:

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 3/23:

10:00 – 11:30 am	**Forecasting (Nazzal)**
11:30 –11:45 am	**Break**
11:45 am – 2:00 pm	**Big Depot/game (Keskinocak)**

pWednesday 3/24:

10:00 –11:00 am	Multi-period inventory decisions under uncertainty (Q, R) (Nazzal)
11:00 –11:15 am	Break
11:15 am – 12:30 pm	Multi-period inventory decisions under uncertainty (Q, R) (Nazzal)
12:30 –12:45 pm	Break
12:45 –1:30 pm	Allocating Scarce Medical Staff to Long-Term Care Facilities in response to COVID-19 Case (Ergun)

Thursday 3/25:

10:00 am –12 :00 pm	Malaria game (Keskinocak)
12:00–12:15 pm	Break
12:15 –1:15 pm	Introduction to Warehousing: Flow, Space, Time (Nazzal)
1:15– 1:45 pm	Assessment/Evaluation

Friday 3/26:

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

Course 3: Systems Operations and Strategic Interactions in Supply Chains

March 29th – April 2nd

Monday 3/29:

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

Tuesday 3/30:

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

Wednesday 3/31:

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**

Thursday 4/01:

10:00 – 12:30 pm	**Performance Measurement (Swann)**
12:30 – 12:45 pm	**Break**
12:45 – 1:15 pm	**Assessment/Evaluation**

Friday 4/02:

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