

Healthcare Logistics  
Education and Learning  
Pathway – PhD module



**Welcome**

# Venue

Leuven, Belgium

Internet

Blended learning concept





# Leuven team in

Group Biomedical sciences  
Faculty of Medicine  
Institute for Healthcare Policy (LIHP)

Group Science, Engineering and Technology  
Faculty of Engineering Science  
Department of Mechanical Engineering



Professor Walter Sermeus



Professor Liliane Pintelon

# Teaching staff PhD module

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Paul Timmermans – UZ Leuven

Karen Moons – UZ Leuven

(<https://www.uzleuven.be/en> )



## Teaching staff



Support

# PhD module

Four\* day training course (+ pre- and post-assignment)

Blended, on-line learning

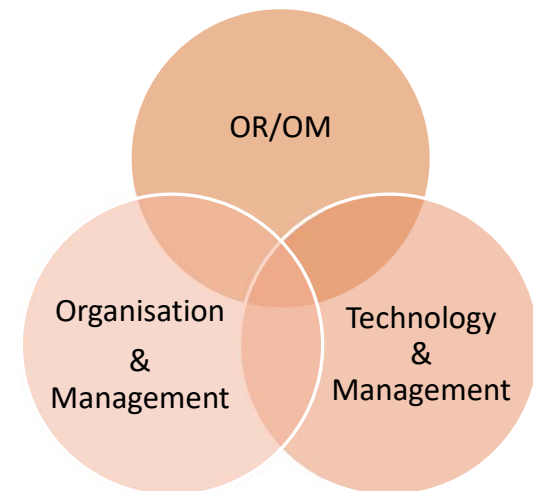
- on-line lecture recordings

- reading material

- virtual team case discussions

- on-line, live, interactive discussions

Healthcare logistics innovative problem solving



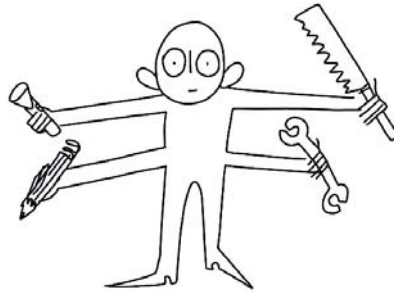
\* Initially a day with a visit to the University Hospital Leuven and a Lean Healthcare Management Game was planned, unfortunately due to COVID-19 it became impossible to include those activities in the PhD module

# Topic choices to make ...

*logistic problems*



*tools & techniques*













*background participants*














# Topic choices made

Pre-assignment	Day 1	Day 2	Day 3	Day 4	Post-assignment
<p>Typical healthcare logistics problems (<i>Notes</i>)</p> <p>Reading materials (<i>Complusory &amp; recommended</i>)</p> 	<p>Welcome to the PhD module (<i>Presentation</i>)</p> <p>Getting to know the participants (<i>Elevator pitch</i>)</p> 	<p>Introduction to MCDM (<i>Lecture</i>)</p> <p>Introduction to inventory management (<i>Lecture</i>)</p> <p>Framework for healthcare supply chain (<i>Case - PhD research</i>)</p> 	<p>Introduction to healthcare technology management (<i>Lecture</i>)</p> <p>Introduction to risk/safety management (<i>Lecture</i>)</p> <p>RFID for logistics optimization (<i>Case – UZ Leuven</i>)</p> 	<p>Healthcare management &amp; organization (<i>Lecture</i>)</p> <p>Health Logistics: future outlook (<i>Notes</i>)</p> 	<p>Critical reflection (<i>Paper to write</i>)</p> 
	<p>Logistics : Basics (<i>Lecture</i>)</p> <p>OR techniques (<i>Lecture</i>)</p> <p>Simulation (<i>Lecture</i>)</p> 	<p>Case study: Satellite hospital (<i>Team work</i>)</p> 	<p>Case study: H@H (<i>Team work</i>)</p> <p>Case study: Outsourcing (<i>Team work</i>)</p> 	<p>Case study: Lean pathways (<i>Team work</i>)</p> 	
	<b>Mo Nov 9</b>	<b>Fr Nov 13</b>	<b>Mo Nov 16</b>	<b>Fr Nov 20</b>	



Pre-assignment	Day 1	Day 2	Day 3	Day 4	Post-assignment
<p>Typical healthcare logistics problems (<i>Lecture notes</i>)</p> <p>Reading materials (<i>Complusory &amp; recommended</i>)</p> 	<p>Welcome to the PhD module (<i>Presentation</i>)</p> 	<p>Introduction to MCDM (<i>Lecture notes</i>)</p>  <p>Introduction to healthcare technology management (<i>Lecture notes</i>)</p> <p>RFID for logistics optimization (<i>Presentation hospital implementation</i>)</p>	<p>Introduction to healthcare technology management (<i>Lecture notes</i>)</p> <p>RFID for logistics optimization (<i>Presentation hospital implementation</i>)</p>	<p>Healthcare management &amp; organization (<i>Lecture notes</i>)</p> 	<p>Critical reflection (<i>Paper to write</i>)</p> 
	<p>Healthcare Logistics - Basic Principles (<i>Lecture notes</i>)</p>  <p>OR simulation (<i>Lecture notes</i>)</p>				
	Mo Nov 9	Fr Nov 13	Mo Nov 16	Fr Nov 20	

Pre-assignment

Typical healthcare logistics problems *(Notes)*

Reading materials *(Complusory & recommended)*



## First introduction to healthcare logistics ...

### typical problems

Stroke unit: Patient flow and bed utilization	ODCU: Waiting times and throughput times	Consultation Glaucoma: Waiting times	Histopathology lab: Organization and planning
ED: Overcrowding	Operating rooms: Planning and utilization	Pharmacy: Organization (incl. automization) and distribution	Blood transfusion: Logistics and patient safety
Equipment & devices: Risk management (usage)	Equipment & devices: Risk management (engineering design)	Primary care: Device maintenance and calibration	Hospital-at-home: Logistics and patient safety
Nursing home: Wheel chair management	Materials management: Ordering, storage, distribution	Networks: Logistics cooperation	Biomedical engineering & logistics in developing countries

### reading material

for all + depending on background

## Day 1

Welcome to the PhD  
module (*Presentation*)

Getting to know the  
participants (*Elevator  
pitch*)



Logistics : Basics (*Lecture*)

OR techniques (*Lecture*)

Simulation (*Lecture*)



**Mo Nov 9**

9:00-10:00: On-live session

<https://eu.bbcollab.com/guest/6121db636dc64a91b705ce26fc4dc415>

At your own pace: three lectures

## Day 2

Introduction to MCDM  
(Lecture)

Introduction to inventory  
management (Lecture)

Framework for healthcare  
supply chain (Case - PhD  
research)



Case study: Satellite  
hospital  
(Team work)



Fr Nov 13

At your own pace: two lectures + case presentation (PhD)

Group discussion (live): Satellite hospital

<https://eu.bbcollab.com/guest/cd9e26f794dd405ca2ccf4d677f09958>

14:00: Case study explained

14:00-16:00: Group discussion participants

16:00: Plenary discussion



## Day 3

Introduction to healthcare  
technology management  
(Lecture)

Introduction to risk/safety  
management (Lecture)

RFID for logistics  
optimization (Case – UZ  
Leuven)



Case study: H@H  
(Team work)

Case study: Outsourcing  
(Team work)



**Mo Nov 16**

At your own pace: two lectures + case presentation (UZ Leuven)

Group discussion (live): (1) H@H – (2) Outsourcing

<https://eu.bbcollab.com/guest/7366717b8d454f8195146de2eef903ad>

14:00: Case studies explained

14:00-15:00: Group discussion participants on case 1

15:00: Plenary discussion case 1

15:30-16:30: Group discussion participants on case 2

16:30-17:00: Plenary discussion case 2

## Day 4

Healthcare management & organization (*Lecture*)

Health Logistics: future outlook (*Notes*)



Case study: Lean pathways (*Team work*)



*Fr Nov 20*

At your own pace: lecture + case preparation (papers to read)

Extra information for the post-assignment: notes

14:00-16:00: Discussion on the papers

<https://eu.bbcollab.com/guest/4490dd74aafa458e9d31a6db27ece2a1>

## Post-assignment

### Critical reflection (*Paper to write*)



Short paper (max 8 pages or 4000 words)

### Critical reflection

Linked to own research (course topics ↔ research topic)

Linked to work environment (course topics ↔ work environment)

Focus on role of logistics in hospitals of future (consulting extra literature).

This paper is due two weeks after the last day of the module (Dec 7). Feedback will be provided

# Practical arrangements

Course material can be found on website: <https://lpintelon.github.io/HELP/>



Live sessions platform Blackboard Collaborate (link for every session)



## THINGS TO KEEP IN MIND

- › Blackboard recommends using Collaborate with Chrome or Firefox. Other browsers might cause some functionalities to work differently, or not work at all.
- › If Collaborate does not start it may well be that your browser doesn't allow third-party cookies. Please Allow [[\\*.jbbcollab.com](https://bbcollab.com)] (Chrome) or <https://bbcollab.com> (Firefox).

Any questions:

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