UCLouvain

Ilsms2032 2021

## Advanced Operations Management : Models and Applications

| 5.00 credits 50.0 ft Q2 | 5.00 crédits | 30.0 h | Q2 |
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| Enseignants                 | Chevalier Philippe ;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |  |  |
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| Langue<br>d'enseignement    | Anglais                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |
| Lieu du cours               | Louvain-la-Neuve                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |  |  |
| Préalables                  | An introductory course in operations management     A probability course  In addition, this course is reserved for students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor's degree in business engineering or students with a bachelor with a b |  |  |  |  |
| Thèmes abordés              | equivalent quantitative method skills  This course presents the key underlying principles that drive operations efficiency in a factory, in services or in a supply chain. These principles can be used to gain valuable insight for complex real-life problems.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |  |  |
| Acquis                      | A la fin de cette unité d'enseignement, l'étudiant est capable de :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |  |
| d'apprentissage             | Having regard to the LO of the programme, this activity contributes to the development and acquisition of the following LO:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |  |
|                             | <ul> <li>2. Knowledge and reasoning</li> <li>2.1. Master the core knowledge of each area of management.</li> <li>2.2. Master highly specific knowledge</li> <li>2.4. Activate and apply the acquired knowledge</li> <li>3. A scientific and systematif approach</li> <li>3.1. Conduct a clear, structured, analytical reasoning</li> <li>3.2. Collect, select and analyze relevant information</li> <li>3.3. Consider problems using a systemic and holistic approach</li> <li>3.4. Perceptively synthesize emonstrating a certain conceptual distance</li> <li>3.5. Produce, through analysis and diagnosis, implementable solutions</li> <li>7. Project management</li> <li>7.1. Analyse a project within its environment and define the expected outcomes</li> <li>7.2. Organize, manage and control the process</li> <li>7.3. Make decisions and take responsibility for them in an uncertain world</li> <li>At the end of this course, the student will be able to:</li> <li>1. Model operations management decisions</li> <li>2. Understand the influence of variability and uncertainty for operations management</li> <li>3. Analyze and solve real life operations management problems</li> <li>4. Model congestion for operations and supply chain management</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |
| Modes d'évaluation          | Continuous evaluation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |
| des acquis des<br>étudiants | <ul> <li>Type of evaluation: Group work on a real case (groups of 4) + homeworks (groups of 2)</li> <li>Comments: participation in the course and presentation of the progress of the work</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |
| etudiants                   | Evaluation week  Oral: Yes Written: No comments: Presentation of group work.  Examination session  Oral: No Written: 3 hours comments: Individual Open Book Examination Unavailability or comments: September examination: written 3h, replaces only the written exam. The part of the evaluation related to the continuous evaluation will that of the semester.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |

| Méthodes<br>d'enseignement   | Lectures Exercices Problem based learning Company visit Real life case study in a company                                                                                                                                                                                                                                                                                                                                                                                            |
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| Contenu                      | ANALYZING AND UNDERSTANDING THE EFFECT OF VARIABILITY FOR OPERATIONS MANAGEMENT  • Variability basics • Push and Pull production systems • Total quality • Development of simulation models for production systems  MANAGING OPERATIONS IN A PLANT  • Pull models • Shop floor controls and scheduling  MANAGING OPERATIONS FOR SERVICES  • Queueing models • Non-stationary systems  MANAGING OPERATIONS IN A SUPPLY CHAIN  • Managing inventory • Managing capacity  Managing time |
| Faculté ou entité en charge: | CLSM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Programmes / formations proposant cette unité d'enseignement (UE) |        |         |           |                        |  |  |
|-------------------------------------------------------------------|--------|---------|-----------|------------------------|--|--|
| Intitulé du programme                                             | Sigle  | Crédits | Prérequis | Acquis d'apprentissage |  |  |
| Master [120] : ingénieur de gestion                               | INGM2M | 5       |           | ٩                      |  |  |
| Master [120] : ingénieur de gestion                               | INGE2M | 5       |           | ٩                      |  |  |