

## 1. Teaching activity

Since September 2012 I have started to work as an Assistant Professor at the ENSGSI from Nancy France., which is a university dedicated to the formation of engineers who will further work in the industrial field, project management and innovation methods applied in various domains. I currently have lectures which vary from the first year of studies (preparatory: 1AP, 2AP) up to the terminal years ("licence 1AI, 2AI, 3AI"). A summary of my teaching can be found in the following tables.

| Titre                                 | Years | CM   | TP  | TD | Exam |
|---------------------------------------|-------|------|-----|----|------|
| Flux Simulation ( FlexSim)            | 1AI   | 2    | 32  |    | 2    |
| FlexSim Projet with 1AI Students      | 1AI   |      | 20  |    |      |
| Control of Discrete Event Systems     | 1AI   | 12.5 | 32  | 12 | 2    |
| Information Systems - SQL + Acces     | 1AI   |      |     | 4  |      |
| Graph Theory (Scilab)                 | 1AI   |      | 16  |    |      |
| Optimization and operational research | 1AI   |      | 16  |    |      |
| Project management                    | 1AI   | 2    | 4   | 8  | 2    |
| Industrial project management         | 2AI   |      |     | 12 |      |
| International project management      | 3AI   |      |     | 8  |      |
| Concept and quality norms             | 1AI   |      |     | 8  | 2    |
| Production quality                    | 1AP   | 3.5  | 34  |    |      |
| Total by type                         |       | 18   | 154 | 52 | 8    |
| Total number of hours                 |       |      | 232 |    |      |

able 1. Total teaching hours in 2013-2014; CM = lecture in amphitheatre, TP = practical work in an special equipped classroom, TD = followed word under the supervision of the professor

| Titre                                 | Years | CM    | TP     | TD |
|---------------------------------------|-------|-------|--------|----|
| Production quality                    | 1AP   | 3.5   | 28     |    |
| Flux Simulation (Arena)               | 1AI   |       | 28     |    |
| FlexSim Projet with 1AI Students      | 1AI   |       | 40     |    |
| Graph Theory (Scilab)                 | 1AI   |       | 10.5   |    |
| Optimization and operational research | 1AI   |       | 10.5   |    |
| Production Simulation projects        | 1AI   |       | 20     |    |
| Project management                    | 1AI   | 2     | 10     |    |
| Production quality projects           | 2AI   |       | 20     |    |
| Industrial project management         | 2AI   | 5.25  | 8      | 4  |
| International project management      | 3AI   |       |        | 32 |
| Total by type                         |       | 10.75 | 215    | 36 |
| Total number of hours                 |       |       | 221.75 |    |

Table 2. Total teaching hours in 2012-2013

My teaching experience can be seen as a total of 453 hours of teaching consisting of lectures in amphitheatres, practical and coordinated work with the students

## 1.1. Teaching as a PhD Student (2011 -2012)

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During my last year of PhD thesis, I have also worked as a teaching assistant at the **University Lumière 2 from Lyon, France**, in the **Informatics and Statistics Department (DIS)**. I gave practical lecture to students enrolled in their second year of studies.

I gave a total of 64 hours of practical work for the lecture: " Introduction to a programming methodology", which have the students the possibility to study and apply different programming techniques using Visual Basic. The final objective was to teach students how to built a graphical user interface which would have various functionalities.

Pendant ma dernière année de thèse (2011 - 2012), j'ai enseigné tant que **moniteur à l'Université Lumière 2 de Lyon**, dans le Département d'Informatique et Statistique (DIS) auprès des étudiants de 2<sup>ème</sup> année Licence.

## 1.2. Description of the teaching lectures

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In this section I present a brief description of some of my classes:

### ❖ Flux Simulation ( FlexSim)

- After the encouraging results we have obtained with [FlexSim](#), starting November 2013 I have taken the charge for the new lecture of flux simulation in FlexSim. In 2012 we experienced the practical work using **Arena** from Rockwell Simulation.
- The students are introduced in the world of 3D simulation, by building industrial production lines, optimizing available resources for the production process, determining the optimal functioning time, building test scenarios and variate appropriate parameters.
- The students are evaluated during each practical work and the final exam. The students are in their first year of studies (1AI) at ENSGSI.

### ❖ Control of Discrete Event Systems

- During this lecture the student will gather fundamental knowledge about : the sequential logic, finite state automata, Petri nets, Statecharts and Grafcet.
- I assure practical and theoretical information through simulations for Petri nets, Grafcet.

### ❖ Graph Theory (Scilab)

- This lecture is assured by [Didier Maquin](#), and concerns optimization methods of production chains, passing through the Simplexe Method, linear programming and graph theory.
- I assure the practical works by teaching the students how to model and represent using Scilab a network of real-life production units, which would allow them to find the optimal path of the supply chain.

### ❖ International project management

- This lecture is assured by [Davy Monticolo](#) from ENSGSI, in collaboration with [Mario Bourgault](#) from "Ecole Polytechnique " Montreal Canada.
- The French students have to work in collaboration with the Canadian students on a case study, using a special platform which is specifically built for supporting the project management techniques: business plan, establishing the budget and the sale price of the products, estimating the time delay using the Gantt planning tool, building and validating the execution tasks, readjusting the project after certain incidents which occur.
- I take part in the conception of the lecture, the coaching of the students during the events that occur, as well as the evaluation plan. The lecture offers a great opportunity for students to experiment the real-life project management, and to learn how to adapt and collaborate with foreign countries involved in the project.

#### ❖ Production quality

- This class contains the technical, historical, normative and social-economical bases for the notions of quality.
- I am responsible of the practical works concerning quality methods taught to the students in their first year of studies, which are applied on current projects under development at the university, and which are realized by student in their 3rd year of studies.

#### ❖ Industrial project management

- this lecture, given by Davy Monticolo, concerns the nine steps of project management in the Anglo-Saxon culture: coordination, contents, delay, cost, quality, humain ressources, communication, risks, and supply.
- I am responsible of practical works concerning the application of SCRUM method on a certain investigation theme; the students must plan the delays and costs of their project, respect the planning steps which have established and create a numerical platform supporting their project.
- this class is for the student in their 4th year of studies.

#### ❖ Optimization and operational research

- This module is assured by Barthélemy Zoz and concerns different methods for optimizing production applications, using linear programming, graph theory, etc;
- I am responsible of the practical work concerninf the maximization of the production profit of an institution, by minimizing their production costs.