

3TU Master's Construction Management & Engineering Newsletter

This newsletter is published at irregular intervals

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Introduction

The CME newsletters focus on interesting and current topics in the field of the Master Construction Management & Engineering (CME). This newsletter informs you about the course schedule in Delft, current events of the student associations, the reaccreditation and a new edition of "getting to know....". We hope you will enjoy reading this newsletter.

March the 30th, 2nd "Joint CME Day" for CME students

To gain knowledge about the other locations, in order to make better choices when deciding where to specialise in CME. That's the first goal of the Joint CME day. The second goal is to facilitate interaction between students of the different locations. The March 2012 edition of this day will emphasize this second goal through an interesting and attractive programme in which you will be solving a multidisciplinary real-life assignment.

More information and the programme of this Joint CME-day will follow soon.

From the CME Director of Education at Delft

At Delft, last year we focussed more on the quality and the study process. So, we made some change in the curriculum and the the course schedule as well. For the students from different back grounds we have some deficiency courses. As far as we can see now the students are quite positive about these changes. In the schedule we placed the cornerstone course Project Management in the third quartile.

Study Association Concept

Study Association Concept used to be an organization only for Bachelor students. Many students that were involved during their bachelor, only come back for coffee during their master. There were no specific activities for master students and master students didn't organize any activities. That's why we're now trying to organize some activities specifically for master students.

Last year Concept started a "Master committee" to organize activities for master students. The committee brainstormed in January and came up with an idea to organize a workshop for CME students. They contacted some teachers for information that was missing in the master's programme and came up with the topic "Transaction Costs". The workshop will take place in February, but the exact date is still unsure. If you are interested to participate, visit Concept.utwente.nl.

We also organized lunches with the three research groups of Civil Engineering, of which CME is one. The students had the possibility to get acquainted with the research group by a presentation about the research of the groups. These lunches were quite successful, especially for students that needed to choose a direction for their final research.

Overall, you can see we are trying to organize activities for master student, but there is a long way to go. If you have any suggestions for improvements, please contact us (concept@concept.utwente.nl).

Accreditation

In October 2011 the Audit of CME took place. It was a successful visit in which the audit committee gave compliments about the performance of this young programme as well as suggestions for improvement. Two of the remarks that were made by the committee are cited here for illustration:

Three universities, three locations and best of three worlds, the committee stated:

"that the aim of the CME programmes reveals that the participating universities are well aware of current developments in the field of construction management and engineering and of the position of the programme within the field. The research-driven, multidisciplinary, international approach offered by the CME programmes corresponds well with the multifaceted challenges faced by today's construction industry. The committee is fully convinced of the added value of integrating technical knowledge and management theories. It feels that, by supplying engineers with a broad scope and strong problem solving skills, the CME programmes clearly meet the demands of the labour market." A second remark the committee made, was:

"During the site visit, the committee concluded that the relative unfamiliarity with the courses taught at the other participating universities that was observed at the staff level, logically extends to the student level. The self-evaluation report mentions various sources of information on the overall structure of the programmes and various specializations available to the students (i.e. academic counsellors, the CME website, brochures and study guides). Nevertheless, the interviewed students informed the committee that students do not necessarily realise which courses are on offer at other locations and how they interrelate with other curriculum components."

It is our challenge to improve the acquaintance with courses taught at other universities. So we will get back to you about this soon. The judgement of the committee is summarised on the last page of this newsletter.

CME Master's projects at BAM Wegen

Currently BAM Wegen has three interesting Master's assignments available for CME students (titles in Dutch):

- 'Koud hergebruik van asfalt'
- 'Hergebruik van asfalt op componentbasis'
- 'Energieverbruik in asfaltcentrales'

More information about these Master's assignments can be obtained at the website: www.cme-master.nl or by contacting the programme developer of CME, Sven Laudy (s.laudy@utwente.nl)



Study Association Concept on excursion

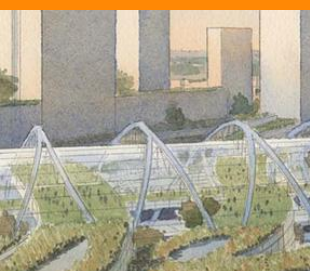
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Julieta during her Master's project in India



Langfang Eco-Smart City Master Plan (Woods Bagot, 2011)

Getting to Know: Julieta Matos Castaño, PhD-student at UT

Julieta is the first CME-graduate starting with a PhD in Twente. A good occasion to get to know her better.

When I arrived in Enschede, more than two years ago, I couldn't predict what the future would bring me. Looking for new international opportunities and a more managerial education encouraged me to quit my job in Spain and start the MSc Construction Management and Engineering. After two years I feel that reality has even overcome the high expectations I had at the beginning of my stay in the Netherlands. My Master helped me to understand the dynamics of the infrastructure world from different perspectives. I improved my analytical capabilities and worked closely with colleagues in group assignments. Besides, I had the possibility to visit other countries. I joined the study tour organized by students in my faculty and we visited several projects in Brazil.

In my master thesis, I had the great opportunity to spend four months in India evaluating road projects. I feel that the University of Twente has encouraged me to direct my career the way that motivates me the most.

Travelling, learning new ways of working and adapting to a new environment have helped me to understand myself better. Last years, I have realized the importance of feeling that your work contributes to improve the world in one way or another. When I first got the opportunity to start a PhD at the department of Construction Management and Engineering, I was a little bit hesitant since I had never thought about doing a PhD before. After several talks with my supervisor and many hours of thoughts, I decided to take this great opportunity. First of all, my project seems to be very interesting. I aim at developing decision support systems for multifunctional flood defences to combine environmental, economic, and social aspects to implement sustainable projects that are financially feasible. It is a great challenge! Secondly, collaboration between the industry, the government and the University is really close in the Netherlands. I feel that my PhD opens a whole new world of opportunities to shape my future according to my expectations. Thirdly, a PhD also contributes to personal growth. A commitment for four years is long enough to experience and learn about your self. And last but not least, the atmosphere at the department is very nice and creative, very important to feel inspired and motivated every day.

Right now, learning Dutch is my pending task. As a student, I could manage to live in the Netherlands without the language but right now I feel it is very important for my work and to be fully integrated in the country. I am already busy with the "Groene boek" and I hope I will manage to have a decent level in the upcoming months! I hope I will tell you my PhD experience in four years! In the meanwhile... Success! Julieta Matos Castaño

Smart Cities, 'Beyond the Boundaries'

As a bi-annual production of the CME study association of CoUrsE!, the first Intervisie of the current board has recently been published. This magazine is distributed amongst students, alumni, teachers, sponsors and relations, allowing an insight into both academic and market-based developments. For this edition the main subject was 'Smart Cities'. This new and interesting approach for urban developments, targets to incorporate sustainable energy technology in the build environment and connect all elements through ICT. But how to actually implement this vision? In the development phase, a shift can be seen in the way the market approaches the customer. Instead of an old-fashioned one-way push market and the current pull market, sales networks are growing in a rapid manner. Customers are involved during the development phase, combining elements from different sellers; this will ensure a product based on the desires of end-user.

Simultaneously, new, long term strategies are applied in urban development, deploying sustainable technologies for a significant period such as 30 years. At the same time does this area wide development of sustainability increase the willingness of investors by spreading the costs and risks after completion amongst a large number of end users. An example of such a large scale development is the Langfang Eco-Smart City Master Plan (Woods Bagot, 2011).

And the last component of this approach is creating awareness amongst the society. ICT products are developed to create insights in power usage, such as the 'Watcher'. This then results in a better understanding and willingness to corporate during the urban development process.

Besides Smart Cities being the main subject of the Intervisie, it was the focus of the annual CME conference held on the 17th of November 2011. Equal to the magazine, an image of the functioning of Smart Cities was formed through the vision of several guest lecturers like ing Gijs Verweij, former CEO of Wereldhave, and David Lemereis, freelance journalist.

With the number of world inhabitants surpassing seven billion and rapidly accelerating, technological developments; Smart Cities might prove to be the approach for future, urban developments in which sustainability and ICT play a major role. But we must not like towards single solution technologies; linking, creating networks is what truly allows future urban, technological and social developments to go 'Beyond the Boundaries'.

For more information look on www.ofcoursecme.com or file a request for an Intervisie through info@ofcoursecme.com.

Ruud van Beek, Commisaris Intervisie '11-'12
Study association of CoUrsE!

Explanation of the definitions used for the assessment

In accordance with the NVAO's Assessment Framework for Limited Programme Assessments, the committee used the following definitions for the assessment of both the standards and the programme as a whole.

Unsatisfactory

The programme does not meet the current generic quality standards and shows serious shortcomings in several areas.

Satisfactory

The programme meets the current generic quality standards and shows an acceptable level across its entire spectrum.

Good

The programme systematically surpasses the current generic quality standards across its entire spectrum.

Excellent

The programme systematically well surpasses the current generic quality standards across its entire spectrum and is regarded as an (inter) national example.

The default assessment is 'satisfactory', i.e. the programme complies adequately with the criteria.

Summary judgement regarding the quality of the master's programme Construction Management and Engineering

Standard 1: Intended learning outcomes

The overall goal of the programme in CME is to integrate technological knowledge and management theories. By doing so, the programme aims to deliver engineers who not only feel confident in a technical surrounding, but are also able to deal with political, economical and societal factors. Moreover, these new engineers should be well equipped for a professional field that is increasingly international in orientation. The intended learning outcomes of the programme have been designed to match this overall goal. Like the other 3TU master's degree programmes, the programme in CME use the seven 3TU.Federation competence areas (also known as the 'Meijers' Criteria') as a domain specific framework. The 22 intended learning outcomes have been subdivided along the lines of these seven Meijers' Criteria. The committee has studied the aims and learning outcomes in relation to the domain-specific requirements. It concludes that the aim of the CME programme holds significant social relevance, as it addresses a need for a new type of engineer that is clearly felt within the (inter) national construction industry and society at large. The intended learning outcomes have been discussed with the professional field and surveys have pointed out that companies generally value the broad scope of CME-engineers. Graduates of the programme easily find employment at the desired level. The committee generally deems the learning outcomes to be of an appropriate academic nature and level, although the phrasing in which they are put could be refined. By making the 10 QANU /Construction Management and Engineering, 3TU.Federation intended learning outcomes more specific for the domain of Construction Management and Engineering, the committee feels that the learning outcomes would also become more applicable. Overall, the end qualifications correspond with general, internationally accepted descriptions of a master's programme and thus they fulfil the descriptions of CME as a scientific, university-level and research-oriented master's programme.

The committee assesses this standard as good.

Standard 2: Teaching-learning environment

The master's programme in CME consists of four main building blocks, i.e.: 1.) the five obligatory courses known as the 'cornerstones', which form the common core of the curriculum, 2.) a selection of specialisation courses that varies across the different locations and reflects each university's own specialty, 3.) a selection of, also variable, elective courses and 4.) the master's thesis. As the committee's task was to assess the three local varieties of the programme as one single degree programme, it mostly studied the mutual elements in the programme, i.e. the 'cornerstone' courses. For these common courses the committee assessed whether their content and structure leads to realization of the learning outcomes. With regards to the content of the cornerstones, the committee is largely satisfied. It considers the cornerstones as solid courses that match the interdisciplinary aims of the programme. In order to assert the academic nature of the programme in CME, the core curriculum could, according to the committee do with an extra dose of methodology.

At present, this subject is only dealt with by local specialisation- and elective courses.

Concerning the structure of the curriculum, the committee notes that progress has been made over the past few years. A further streamlining of the different components is, however, advisable. The joint curriculum would benefit from an increased exchange of best practices between staff members at different locations. Also, a better alignment of the contents of different courses would increase students' comprehension of the curriculum and their willingness to take courses at different locations. When it assessed the teaching-learning environment, the committee found some contradictory evidence with regards to the aim of internationalization. Course material is not always provided in English and many of the case studies used reflect the Dutch context. Furthermore, the level of English of the teaching staff is not always up to standard. From the information gathered during the assessment, the committee established that the study load is feasible and completion rates (as far as these can be judged for such a relatively new programme) are acceptable. Also, it found that the facilities, the range of different educational formats and the commitment of tutors are well suited to the intended learning outcomes.

The committee assesses this standard as satisfactory.

Standard 3: Assessment&achieved learning outcomes

The committee established that an appropriate mix of evaluations, tests and examinations is used to assess whether the intended learning outcomes are achieved. Students are evaluated in a number of different ways to test knowledge and skills, the application of knowledge and QANU /Construction Management and Engineering, 3TU.Federation 11 skills, and professional behaviour, depending on the educational mode. Different instruments are implemented to guarantee the quality of the examinations; students rate the quality of the assessment and have sufficient possibilities to submit complaints. At present, there is no joint 3TU Examination Committee, each location has its own Examination Committee and therefore its own closed system of assessment and quality control. Although the committee does not question the functioning of these individual systems, it does advocate further homogenization of assessment criteria and procedures. This especially holds true for the criteria for and evaluation of theses. The introduction of a consistent system of cross-referencing would, according to the committee, imply an important step towards further integration of the three local varieties of the programme. Judging by the overall level of the thesis work, the committee feels that the intended learning outcomes are achieved. After graduation, students are prepared for independent professional practice and research. This conclusion is supported by alumni- and employer satisfaction surveys, which illustrate that the achieved level of graduates provides for a good start on the labour market.

The committee assesses this standard as satisfactory.