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## **20. NEW STUDENT ADMISSION SYSTEM TO THE DEGREE PROGRAMME IN ENERGY AND ENVIRONMENTAL ENGINEERING**

### **Abstract**

**A** NEW STUDENT admission system to the Degree Programme in Energy and Environmental Engineering was developed in order to be able to make the decisions on the selected students earlier than in the old system. The results on selections needs to be announced earlier in order to be able to compete with foreign universities requiring the tuition fees from non-EU/EAA citizens. When developing the new system, benchmarking was done by comparing the process to the student selection system used by the Degree Programmes in Media and Arts. Several technical issues were taken into account during the planning phase. Furthermore, several challenges and risks involved with the new system have been identified.

### **Background and objectives**

A new student admission system to the Degree Programme in Energy and Environmental Engineering (hereafter IDEE) was developed to meet the new needs caused by the tuition fees required from non-EU/EAA citizens. The main aim of the new student admission system is to be able to inform the applicants as soon as possible whether they got the study place or not. This enables the

IDEE to compete with the foreign universities and, on the other hand, it makes it easier for the accepted applicants to get everything ready in time before the first study year starts.

Different student admission systems, including entrance exams and interviews have been in use during the 20-year history of the IDEE. The Finnish Network for International Programmes (FINNIPS 2017a) has been responsible for arranging the entrance examinations for the English-taught degree programmes during the past few years. Without the network, it would not have been feasible to arrange entrance examinations all over the world. As an example, in 2017 the FINNIPS organizes the entrance examinations in 12 countries with 42 Finnish degree programmes in the network (FINNIPS 2017b).

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The main objectives of the new student admission system are that it needs to be available for any eligible applicant anywhere in the world, it needs to test the applicant's skills in mathematics, physics, chemistry and English. One obvious risk is caused by the fact that the online entrance examination is practically impossible to supervise in the way that all fraudulent behaviour could be prevented.

Model for the new student admission system was borrowed from the Degree Programme in Media and Arts (hereafter MEDIA), where a similar kind of selection process was successfully implemented already in 2016. Due to the differences between the two degree programmes, the IDEE student admission system was slightly modified from the system of the MEDIA. The experiences from the MEDIA enabled the IDEE to take many issues into account when planning the new admission system.

The MEDIA's experiences enabled us to tackle many technical issues during the planning phase. The main difference between the MEDIA's and the IDEE's student selection are the pre-tasks and their file sizes. In the IDEE's case, we are able to use the TAMK's E-form Editor by Eduix Oy.

### **Description of the new student admission system**

The new student admission system is rather straight-forward (table 1). The applicants start by doing the pre-tasks, which include a writing task and 11 problems to be solved. Problems 1 to 8 test the applicant's mathematical skills and the problems 9 to 11 include physics and chemistry problems (TAMK 2017a).

The pre-tasks have to be done within the application period, due to which they have been available for the applicants since 16.12.2016. After the pre-tasks are ready, the applicants have to fill in the Official Online Application in Studyinfo (Studyinfo 2017) and the Personal Online Data Form (TAMK 2017b). In addition, the required attachments have to be sent to a provided e-mail address as attachments by the applicant.

After the application period, the successfully returned pre-tasks are checked and they are assessed as pass or fail. Altogether 60 applicants are invited to online interviews and the final selection will be done based on the interviews. At the time of writing this article, we cannot give any detailed information on the interviews. Each interviewee will be given points based on their performance during the interviews. The interviews will also be recorded in case there is need to check some answers when doing the final selection and also to be able to check the identities of the selected applicants later on.

The distribution of work goes so that teachers will check the pre-tasks, after which they will give their opinions on who to be invited for the interviews. The required attachments will be checked by the TAMK's Admissions Office. Interviews are done by trained personnel, mainly consisting of teachers. The interviews need to be carried out during three days, due to which several interviewing teams are needed. Grading of the interviews will mainly be done during the interviews by using a separate assessment form for each applicant.

## Results

The pre-tasks have been available for the applicants since 15.12.2016 and the official application period is 10.1.–25.1.2017. Due to the timetable we are not able to provide statistics on the new student admission system in this article, but the initial statistics will be presented during the TAMK conference. Most of the data will be confidential, but normal descriptive information will be available, including the total amount of applicants and nationalities.

## Further development

Currently there is a clear need to improve the student admission system so that the applicants have to fill only one online application. For example, the current Official Online Application does not allow the applicants to attach any additional documents that would be needed in the selection process. The Official Online Application has to be filled in due to the Finnish national joint application system. After filling in the Official Online Application, the applicants get their official application number, which is required in order to be an official applicant. Furthermore, the applicant needs to send the required attachments to a third place.

The E-Form Editor by Eduix Oy that is used at TAMK is not designed for this kind of purpose and, therefore, can create some technical problems. The maximum file size allowed for the attachments is 8 MB, which can create a problem if the applicant is not able to compress the file size when sending in the Personal Online Data Form. The maximum file size has been mentioned in the instructions and based on the performed tests the file size of the scanned pre-tasks should not be over 8 MB.

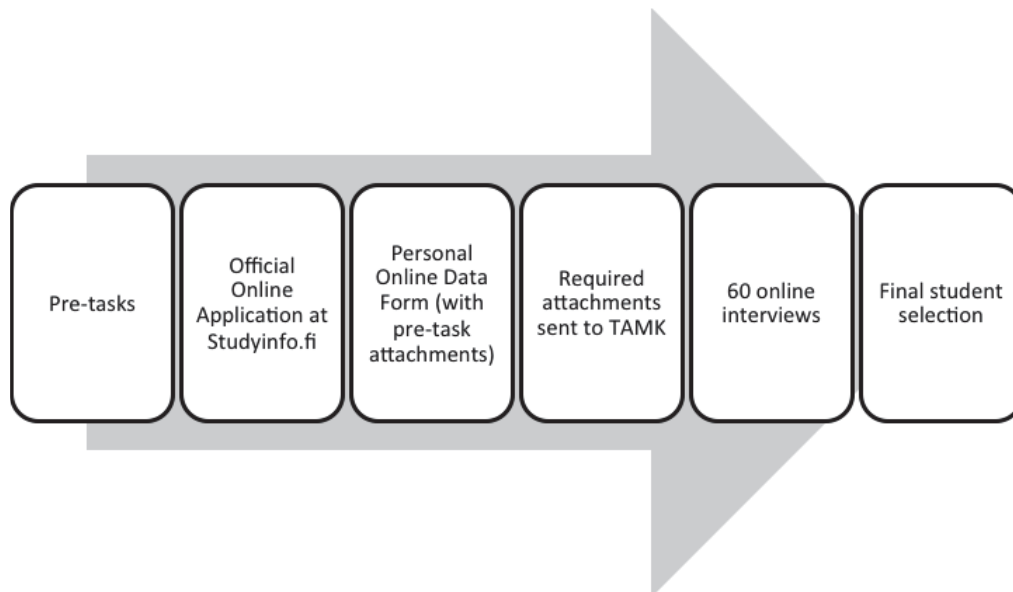
This kind of complexity is unnecessary and needs to be streamlined in future. We anticipate several problems and risks due to the complexity and unfortunately we were not able to do anything for this matter. However, increasing the level of user-friendliness would be the first and most important thing to be improved.

Although the application instructions have been planned and written as carefully as possible, there are worries whether the applicants notice that the pre-tasks have to be returned within the application period. This can be a stumbling block for some applicants if they start to read the application instructions very close to the deadline and therefore cannot deliver the pre-tasks by the deadline.

Since this is the first time when this kind of student admission system is in use, the experiences and other data will be collected during the application process. In this article we are only able to provide the description of the new student admission system and some initial thoughts about the possible risks and challenges in the system.

TABLE 1. Tasks and timetables for the applicants presented in the application instructions

WHAT	WHEN	DEADLINE
1. Do the assignments	You can start right away!	
2. Fill in the Official Online Application		25 January 2017 at 3:00 pm
3. Fill in the Personal Online Data Form	Between 10 Jan 2017 at 8:00 am and 25 Jan 2017 at 3:00 pm	
4. Take care that you have sent all the required attachments to TAMK.		8 February 2017 at 3:00 pm



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