The collaboration between the University and Industry world is very important in producing engineering graduates that meet the expectations of hiring companies. Often times human resources managers of big companies complain about how costly the training of new graduates gets due to high employee turnover in various engineering fields. It is crucial for universities to take measures to help companies with both training costs and employee retention rates. In this respect, Bahçeşehir University started the collaboration with leading companies in different industries to offer Brand Name technical courses taught by instructors from the associated companies and a faculty member from the university. A discussion of a Brand Name Technical Course practice will be presented in this paper.

Keywords: Brand Name Course, Engineering Curriculum and Career Management Skills
The concept of Brand Name Technical Courses was developed as a part of a new campaign to increase the level of collaboration between the university and industry. Santoro (2002) and Santoro et al (2002) emphasize the importance of such collaboration for both parties. There are two types of courses: career management skills (CMS) courses and technical courses. Yorke and Knight (2003) propose that students can be provided with opportunities in the curriculum to develop CMS. Our students are able to take these courses from the free elective pools in their curriculum. On the other hand, the curriculum designers must collaborate with the industry for engineering students in order to ensure employability. As Lang et al (1999), Beckman et al (1997), and Hanel et al (2006) propose the curriculum designers should know the expectation of industry for new engineers. Here at Bahcesehir University, technical courses have become a very useful tool. Under the responsibility of a faculty member, these courses are taught by instructors from the brand associated companies. The faculty member gets feedback from the company instructor on both the course and other areas where students seem to lack sufficient knowledge, so that the adjustments needed in the undergraduate curriculum can be determined. In addition to modifying the curriculum according to the needs of the industry, the company gets a pool of internship applicants from the course. Exposing selected students to the company culture during the internship and preparing them according to company needs during their undergraduate curriculum will help the company minimize training costs and increase employee retention rate.

TECHNICAL COURSES

The College of Engineering, (which includes the following seven departments: Computer, Electrical and Electronics, Energy Systems, Environmental, Industrial, Mechatronics, and Software Engineering) started collaborations with leading Engineering Companies in the Istanbul area. There are twelve courses offered. Students are allowed to take the course related to their field in their junior or senior years from their restrictive elective or free
elective pool in the curriculum. Students from different engineering fields have a total of eight courses in restrictive and free elective pools on average, and usually can select up to two brand name courses related to their field. Some Brand Name course examples are listed in the table I.

<table>
<thead>
<tr>
<th>Company</th>
<th>Brand Name Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAS</td>
<td>“Canias ERP Applications”</td>
</tr>
<tr>
<td>Turkcell</td>
<td>“Mobile Communications and Technology”</td>
</tr>
<tr>
<td>Mercedes Benz</td>
<td>“Design Processes”</td>
</tr>
<tr>
<td>IBM</td>
<td>“Service Oriented Architecture”</td>
</tr>
<tr>
<td>Microsoft</td>
<td>“Developing Web Applications using Microsoft Silverlight”</td>
</tr>
<tr>
<td>Schneider Electric</td>
<td>“Energy Efficiency and Savings”</td>
</tr>
</tbody>
</table>

In the next section, the development and evaluation of Mercedes Benz “Design Processes” course will be presented.

**MERCEDES BENZ DESIGN PROCESSES CLASS**

The Mercedes Benz “Design Processes” class is developed for Mechatronics Engineering students. Three faculty members from our Mechatronics Engineering Department met with Engineers from Mercedes Benz Turk four times prior to determine the content of the class. Two meetings were held in Bahcesehir University and two meetings were held at Mercedes Benz Turk Hadimkoy Plant.

Engineers from Mercedes Benz emphasized the importance of CATIA software in their daily operations. CATIA is very widely used software in both car and airplane manufacturing industries. Consequently, the software training was added to the theoretical part of the class as a lab section. The University purchased the academic version of the software, and paid for the software training for our instructors.
Fourteen Mechatronics students took this class the first year. The University also allowed the company ten seats for their interns from different universities. The lectures were carried out by ten different instructors at the University. The software labs were administered by CATIA software technical service. There were also two field trips to the manufacturing plant during the semester. Class of 2009 is depicted in figure 1.

Figure 1, Mercedes Benz Class of 2009

The students were also given technical information and had the opportunity to see the systems they learned in the lectures. The students getting information from the truck department is depicted in figure 2.

Figure 2, Part of Mercedes Benz Truck Lecture
The next two figures show the student evaluations of Mercedes Benz “Design Processes” class. The scale is zero to five, five indicating the highest satisfaction level.

Figure 3, Evaluation of Mercedes Benz Design Processes Instructors (Fall 2009)

The results indicate that students were satisfied with the overall experience but there was room for improvement on issues such as homework, evaluation, and outside class interaction.

Figure 4, Evaluation of Mercedes Benz Design Processes Class (Fall 2009)
These issues were improved by assigning a teaching assistant to the class. Since the class was very popular with the students, the number of seats increased to thirty five for the fall 2010 semester.

CONCLUSION

The concept of Brand Name Technical Courses, with the specific example of Mercedes Benz “Design Processes” was discussed in this paper. The concept is very useful in engineering education in two ways: providing higher employability and a more up-to-date curriculum. Out of fourteen Bahcesehir students, three were accepted as interns at Mercedes Benz Turk the first year and the faculty instructor reported that they showed interest in a few students this year. Considering the prestige of the company, the outcome is very impressive. There are similar results with other CO-OP partner companies. The interaction with the industry through these courses also provided feedback of expectations of new engineers entering the industry. Departments are planning to take this feedback into consideration when the undergraduate curriculum is changed next time.

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REFERENCES


