

Development of Industry Oriented Undergraduate Research Program

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Abstract : Many engineering students feel uncomfortable in solving the industry related problems. There are many ways to strengthen the engineering student's ability to solve the assigned problem when they get a job. Korea National University of Transportation has developed an industry-oriented undergraduate research program (URP). An URP program is designed for engineering students to provide an experience of solving a company's research problem. The URP project is carried out for 6 months. Each URP team consisted of 1 company mentor, 1 professor, and 3-4 engineering students. A team of different majors is strongly encouraged to integrate different perspectives of multidisciplinary background. The corporate research projects proposed by companies are chosen by the major-related student teams. A company mentor gives the detailed technical background of the project to the students, and he/she also provides a basic data, raw materials and so forth. The company allows students to use the company's research equipment. An assigned professor has adjusted the project scope and level to the student's ability after discussing with a company mentor. Monthly meeting is used to check the progress, to exchange ideas, and to help the students. It is proven as an effective engineering education program not only to provide an experience of company research but also to motivate the students in their course work. This program provides a premier interdisciplinary platform for undergraduate students to perform the practical challenges encountered in their major-related companies and it is especially helpful for students who want to get a job from a company that proposed the project.

Keywords : company mentor, industry oriented, interdisciplinary platform, undergraduate research program

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