



“Workshop on COMSOL Multi-physics software”

Waljat College of Applied Science hosted a workshop on COMSOL Multi-physics software on 11 December 2017, which has a high reputation for its use in the advanced research and learning about components behavior in the fields of Electronics and Communication, Bio-technology, Computer Sciences. The workshop was organized by Mr. Vikash Sharma under the banner of IEEE. The Resource person of the workshop was Mr. Hakam Mohamad Elessawy (COMSOL Technical Support Engineer). The students of 5th Semester of the departments Electronics and Communication, Bio-technology and Computer Sciences did attend the workshop. The workshop was attended by a total of 42 people consisting of 8 teachers and 34 students. The Workshop was taken up by students as well as teachers with equal enthusiasm.

The workshop was very well planned and organized. It consisted of three different experiments/explanations of COSMOL Multi-physics software’s domains. They were as follows:

- 1) Conjugate Heat Transfer, Laminar Flow:- It is used to simulate the coupling between heat transfer and fluid flow. It combines the Heat Transfer in solids and Laminar Flow interfaces. And provides option to include flow heating in the model. The model was made in 2-D domain.
- 2) Eigenvalue Analysis of Elbow Bracket:- It was used to simulate the different pressure condition the Elbow Bracket (any mechanical part) experiences when pressures are applied at different point. What are it frequency, mechanical strains, and different parameter’s output are recorded for constructing a proper mechanical device or moving part.
- 3) AC/DC Module, Magneto statics:- It was used to simulate the magnetic fields and forces through a model of permanent Horse Shoe magnet and an iron bar. Then entire system was treated as a ferromagnetic material and then the magnetic field and forces are computed.

The flow of the workshop was very good. The interaction between the resource person Mr. Hakam Mohamad Elessawy and the participants was remarkably well. The multiple advantages of the workshop were being discussed and its future use was explained. The students and teachers feedbacks were recorded and they were satisfied with the workshop content, organization and its helpfulness, and would be delighted to attend other such workshops in future.