Role Description for Demonstrators for ENGR30002

Fluid Mechanics is a third year engineering subject that encompasses the area of fluid flow relevant to a range of engineering applications. Topics covered include - fluid statics, manometry, derivation of the continuity equation, mechanical energy balance, friction losses in a straight pipe, Newton’s law of viscosity, Fanning friction factor, treatment of roughness, valves and fittings, simple network problems, principles of open channel flow, compressible flow, propagation of pressure waves, isothermal and adiabatic flow equations in a pipe, choked flow, dimensionless analysis and Buckingham’s π theorem.

Each semester, students have to attend two 2-hours laboratory sessions. Each lab session usually has up to 25 students. Demonstrators are expected to have a good understanding of the experiment and background knowledge. Students have to complete a laboratory report after each laboratory session.

Responsibilities

Demonstrators are required to prepare for and run these laboratory sessions and mark laboratory reports. Lead demonstrators are also required to complete extra administration such as attendance and group allocations for their workshops. Demonstrators are expected to have a good understanding of all of the material covered and be able to demonstrate how to solve all questions presented. Marking must also be conducted in a timely manner, typically being completed within 1 week so that feedback can be returned by the following workshop.

For the first workshop of the week, demonstrators are paid for:

- 2 hours of contact time and
- 1 hour of preparation.

Additional workshops are paid 2 hours per laboratory session, marking is paid in addition to workshops (hours would vary based on assessments).

There will also be a preparation meeting at the start of each module. This will be paid in addition to the normal hours.

*Please be aware that more than 1 hour may be required for proper preparation particularly for new demonstrators in some topics, although this may be offset by topics that the demonstrator is more familiar with.*

New demonstrators are required to attend a training session at the start or just before the start of semester.

Workshop Times

Provisional workshop times can be found at: