

Student led Academic Excellence

Ulster Society of Student Engineers



Faculty of Computing, Engineering and the Built Environment

ulster.ac.uk

Introduction

The **Ulster Society of Student Engineers (USSE)** was formed as a student-led group to work closely with academic and professional services staff, in the School of Engineering at Ulster University. USSE took forward a student-led induction for new students and delivered additional workshops and courses for academic study. Through visits to industry and research labs they have made contributions to employability. Via a dynamic social programme and peer tutoring they have formed a strong cohort identity to enhance retention. USSE has won national awards from the National Union of Students and institutional awards for partnership between staff and students.

Objectives

Student Engineers established their society with a mission to improve retention, employability and student experience by focusing on:

- Inclusion:** working towards ensuring everyone is welcomed and accepted into the School family
- Outreach:** extend the welcome. engaging wider society and students of other Schools for greater sustainability (Yun and Liu., 2019)
- Empowerment:** using practical application based projects to develop critical thinking, complex problem solving, emotional intelligence, and creativity whilst adding relevance to academic teaching
- Employability:** developing a peer led pedagogy to improve career prospects

Initiatives and Activities

| Inclusion | Outreach |
|--|---|
| <ul style="list-style-type: none"> Year 1 induction day (#EngDay) Dedicated USSE room (06C10b) for projects and socialising Social events (formal dinner, Halloween party, table quiz) Active social media accounts Peer revision and support | <ul style="list-style-type: none"> School partnership events (Greenpower racing, robotics) University partnership (UU Widening Access team, open days, school visits) Youth organisation partnership (robotics, BBC Micro:Bit) |
| Empowerment | Employability |
| <ul style="list-style-type: none"> Upskill workshops (MATLAB, electronics, LaTeX, Altium, Ansys, networks, productivity) Competitive projects (Greenpower electric car racing, NI Robotics League) Inform School policy through module feedback | <ul style="list-style-type: none"> Engineer-specific CV workshops Staff mentoring Peer mentoring from returning placement students Academic mentoring from PhD researchers Site visits to employers |

Impact and Results

The USSE has had a large impact on student life and in the promotion of STEM in the region. In the 2018-2019 year alone the Society hosted the following 40 events by category:

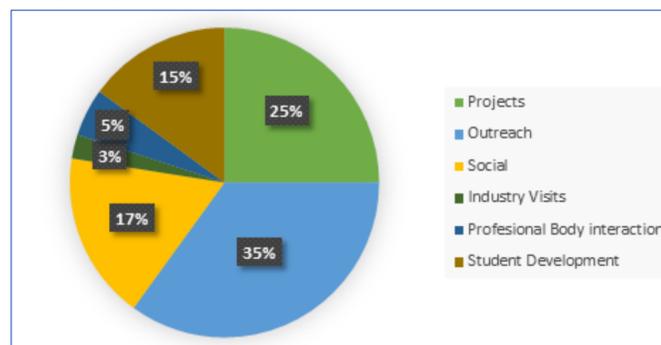


Figure 1: Society activities in the 2018-19 year.

Employability Impact:

100% past committee members in graduate jobs, further study or industrial placements

Awards:

National Societies Awards – 2018 – Best New Society, Runner up Best Academic Society
 UUSU Learning & Teaching Awards – Partnership Award 2018
 Northern Ireland Safety Group quiz champions – 2018 and 2019
 Irish National Safety Organisation finalists – 2018 and 2019

Recognition:

Motorsport UK recognised club (application submitted)
 IET On Campus group since 2017

Conclusions

Starting with a truly student-engineer led induction, USSE has built and fostered a culture of more pro-active engagement within the student cohort, as well as a stronger sense of cohort identity.

Their work has provided more organic attraction in outreach, recruitment and admissions where UUSE working in partnership with staff teams. Peer tutoring and revision classes have contributed to uplifts in retention. As USSE develops further we expect to see increasing impact in employability.

Providing teams of students with financial support they can bid for in a streamlined "one page" fashion, along with practical support, working space and mentoring can lead to award winning transformative change.

References/Authors

Yun, J. J. and Liu, Z. (2019) 'Micro- and Macro-Dynamics of Open Innovation with a Quadruple-Helix Model', SUSTAINABILITY, 11(12). doi: 10.3390/su11123301.

Professor Colin Turner
 Stuart Christy
 Garrett Canavan
 Michael Jennings

c.turner@ulster.ac.uk
s.christy@ulster.ac.uk
canavan-g2@ulster.ac.uk
jennings-m5@ulster.ac.uk

Twitter: @USSEngineers
 Facebook: <https://www.facebook.com/USSEngineers/>
 Instagram: <https://www.instagram.com/ussengineers/>