



Notre Dame University-Lebanon Department of Civil and Environmental Engineering





- Notre Dame University-Louaize is a
- > Private Lebanese Non-profit Institution
- > Catholic Institution of Higher Education
- > American System of Education

Accreditations:























Competition Participations



• Objective:

Develop an innovative concrete mixture, which will have the lowest possible environmental impact while maintaining optimal mechanical and durability performances.











Team Members
Daniel-Kees Kandiel
→Jeffrey Jabbour
→Serge Saade.



- Advisor
- Zehil, Gerard-Philippe, Ph.D.



Initiatives to participate:

- Lebanon is facing difficulties with solid waste management, in addition to high levels of pollution.
- Urge to participate in the remediation of our environment.
- Minimize pollution from a civil engineering point of view.
- > Excellent learning experience.







Methodology



Results:

- Environmental impact reduction of 35%:
- No quarrying needed for aggregates (crushed to natural)
- Use of river pollutants as fillers (limestone powder)
- Reduction of cement content by 40% (High Production energy-Pollution)













Our Winning mix's results:

- Compressive strength: 40.7 MPa
- Resistivity: 17 KOhm.cm
- Environmental impact reduction : 35%





POPSICLE STICK BRIDGE COMPETITION 2018.

- 32 groups participated from 11 different universities.
- Held on March 2018, event organized by ASCE.









POPSICLE STICK BRIDGE COMPETITION 2018.

• Our winning bridge weighed 444 grams, and was able to support up to 566 Kg at mid-span.





