

General Objective

To develop an understanding of professional and ethical responsibility associated with civil engineering. By understanding the current infrastructure and systems that support our society and its future development.

To develop an ability to communicate effectively in written and spoken manner in English.

Content

Topic No. 1 Transportation engineering

- Air transportation
- Ports and harbors
- Urban transportation systems
- Intelligent transportation control systems

Topic No. 2 Urban planning

- Politics and city planning
- City development

Topic No. 3 Water management

- Wastewater treatment plants
- Drinking water treatment plants
- Water and sewer systems

Topic No. 4 Materials

- Cement plant
- Raw materials and logistics

Topic No. 5 Structural engineering

- The tallest buildings in Colombia
- Hydraulic structures
- The built environment and urban planning

Topic No. 6 Construction engineering

- Construction trades
- Construction technology

Topic No. 7 Foundation and geotechnics

- Foundations

- Type of soil and In situ determination
- Field testing
- Challenges in Colombia

Topic No. 8 Highway engineering

- Profile of the roads
- Type of design
- Land routes design and challenges in Colombia

Each semester the visits and schedules will be adjusted subject to the agenda of the companies and government agencies. There will be a maximum of 5 visits each semester. Weekly activities and technical visits, schedules, will be posted on virtual Sabana.

Evaluation

The course will be evaluated in three stages

- First stage: 30%
- Second stage: 30%
- Third stage: 40%

Each one of the stages will have individual and teamwork and written evaluations. All of the report will be check for plagiarism, if a report has 25% or more of plagiarism this part of the final grading will be equal to zero

Bibliography

- ASCE library at <http://ascelibrary.org.ez.unisabana.edu.co/>
- <http://virtual.unisabana.edu.co/>
- http://turnitin.com/en_us/resources/category/preventing-plagiarism