

Physics course: Transmission Lines

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Prerequisites

- Engineering 1st year mathematics: differential calculus, differential equations...
- Engineering 1st year physics;
- Vibrations and waves.

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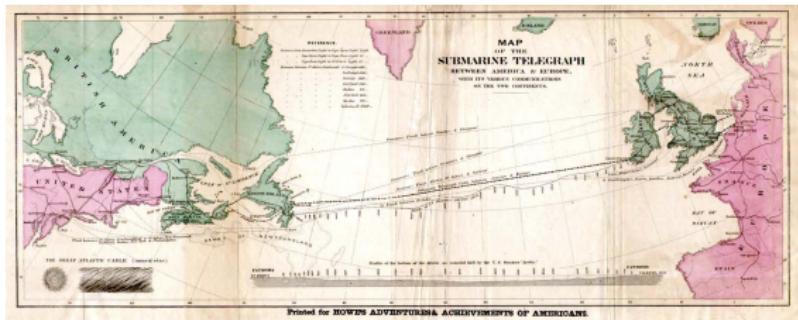
Course progression

- Lessons and exercises sessions
- 1 Lab session (3h)
- 1 Exam (1.5h)

<https://www.youtube.com/watch?v=ASNQ8rNzcLc>

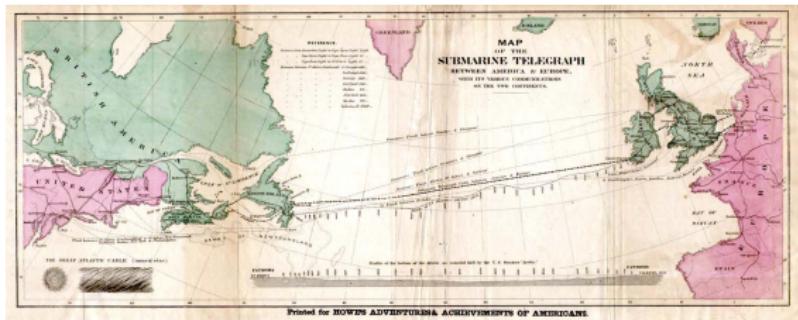
Historical context

Transatlantic telegraph cables



Map of the 1858 Atlantic Cable route
(from <http://atlantic-cable.com/Maps/index.htm>).

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Landing of the Atlantic Cable of 1866, Heart's Content, Newfoundland, by Robert Charles Dudley, 1866.

Electromagnetic Theory



James Clerk Maxwell (1831-1879).

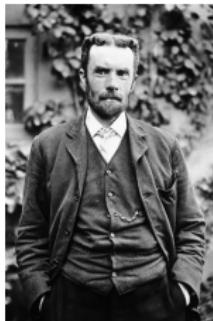
Scottish physicist, in 1864 established the Electromagnetic Theory (eight equations).

<https://www.youtube.com/watch?v=kx20kG6m-JA>



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<https://www.youtube.com/watch?v=cXkPDB6kq9A>

Finale?

<https://www.youtube.com/watch?v=bHIhgxav9LY>