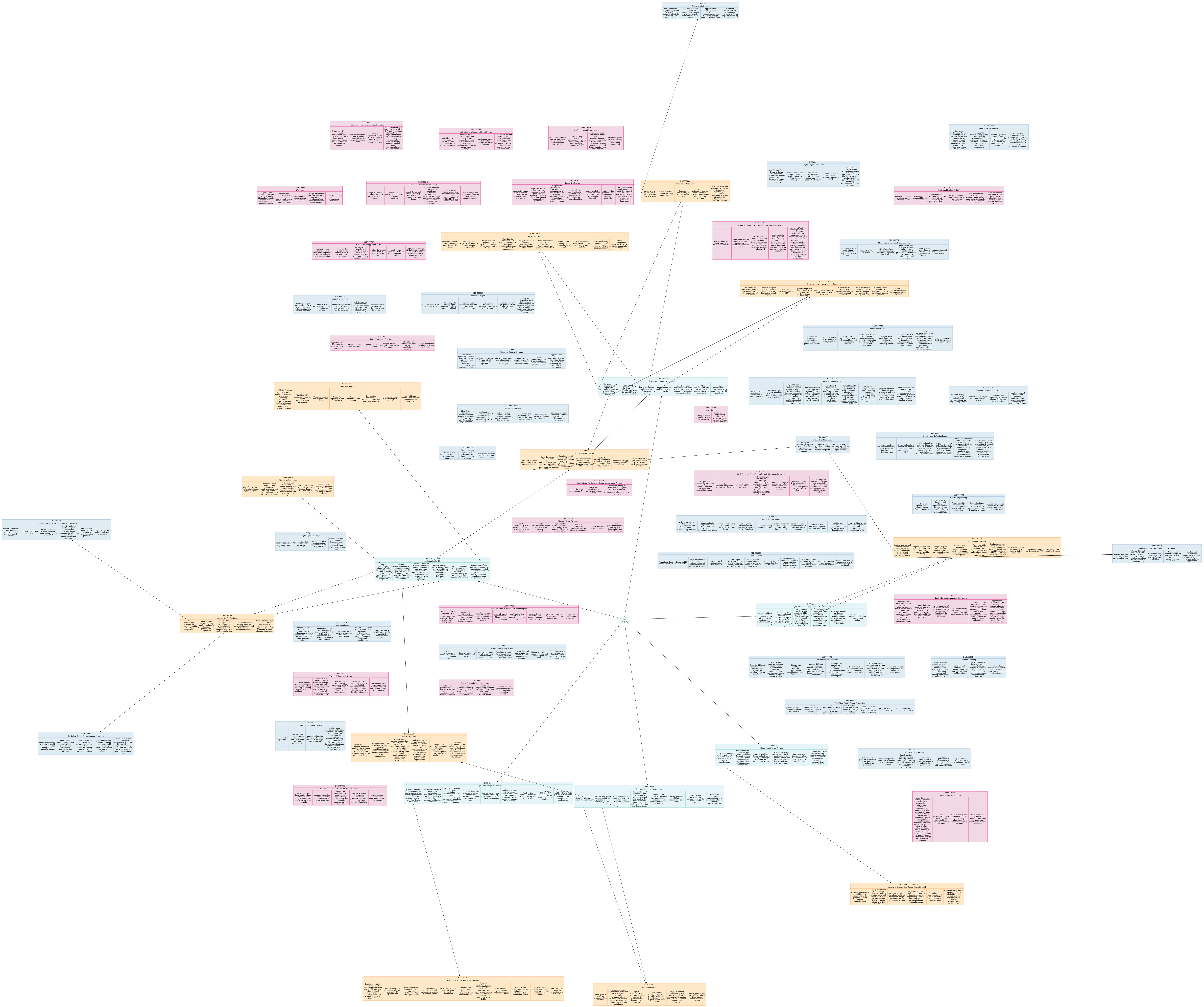
ELEC40004
Programming for Engineers
use the fundamental components of imperative programming in terms of control-flow structures and variables
design and implement a C++ program that communicates using file-based IO in a CLI environment
verify the correct behaviour of programs
diagnose and fix incorrect behaviour and crashes
select and use data-structures from the STL according to needed performance and functionality
use APIs, encapsulation, and abstraction to manage software complexity
design object-oriented data-structures to capture real-world problems
ELEC70041
Year Abroad
learning outcomes supported by the host university
experience of engineering practice, technology, and working methods outside the UK
ELEC50009
Information Processing
Explain and apply convolution for linear time-variant systems using transfer functions for continuous and discrete time systems
Use the sampling theorem with the discrete Fourier Transform and the z-transform
Model a data filtering problem as a transfer function and understand how to apply filters to signals
Implement discrete filters using software
Create information systems which use software and hardware to process information
ELEC70030
Professional Portfolio and Group Consultancy Project
evidence the claims made in your CV
speak with confidence and eloquently on your achievement
reflect on what you have learned and how that can be applied in research/development/industrial practice.
ELEC70022
Modelling and Control of Multi-body Mechanical Systems
discriminate between the two main branches of Classical Mechanics: vectorial and analytical mechanics
generalize real mechanical systems as multibody systems
apply the basic tools of Classical Mechanics
develop models, in the form of differential equations, of real mechanical systems using various methods from classical mechanics (Newton's laws and Lagrangian equations of motion)
Appraise the challenges associated with low system inertia and short-circuit levels driven by high fractions of renewables
configure and use a variety of hardware platforms and development toolchains
represent the position and orientation of objects in space
ELEC70009
start