

Engineering with Computers

Communication

- Use Tux Paint to create an “Engineering Communication” of your choice.
 - Open Tux Paint using: Applications → Graphics → Tux Paint
 - If Tux Paint opens with a picture already loaded, click the “New” icon on the left-hand side to start a new picture; double-click the color you want to use for your background.
- If you have extra time you can also explore more advance programs like GIMP Image Editor, Inkscape and LibreCAD

Design/Simulation

- Explore physics simulations with Numpty Physics. See how many levels you can complete.
 - Open Numpty Physics using: Applications → Games → Numpty Physics
 - Press ‘M’ at any time to get the game Menu. You may click Help here to get more information.
 - To restart a level press ‘R’
 - To Pause/Resume simulation press the Spacebar
 - If you start on a level that’s too advanced, press the left arrow key to back up to an earlier level.
- Explore simulation programming in Scratch
 - Open Scratch using: Applications → Programming → Scratch
 - Try opening and running the simulation example programs
 - File → Open → Examples → Simulations
 - Run programs by clicking the Green flag
 - Stop programs by clicking the Red octagon

Automation

- Write your own Scratch programs to demonstrate automation
 - Count to 100 by 5's
 - Count almost to 100 but not past by 6's
 - Slow down the count so it's readable
 - Draw a square
 - Draw a triangle, circle, spiral