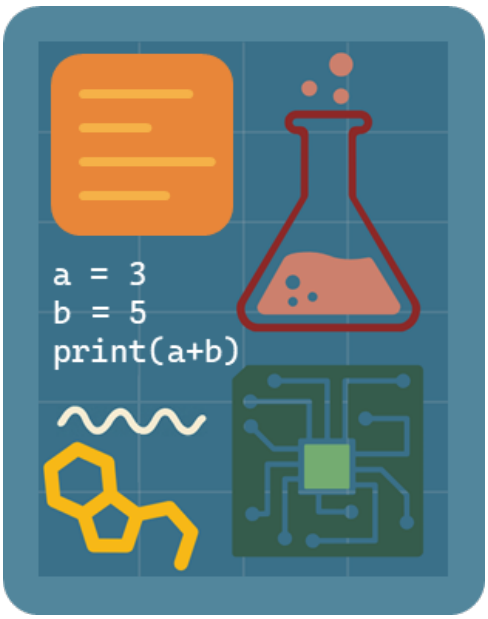
Programming for Chemists



Recent trends in the automation of experiments and the processing of large datasets suggest that at least a basic competency in programming will likely be a requirement for future chemists. This course aims to provide this competency to students with no prior knowledge in programming and to strengthen programming skills in those who already have a beginner/intermediate level knowledge. Some aspects to the syllabus include:

- Understanding the syntax and common data types/structures used in programming
- Learning control flow and functions in object-orientated programming languages
- Working with collaborative tools for programming (*e.g*. GitHub, PyPi)
- Learning the fundamental elements of computer science
- Understanding key data science tools (*e.g.* Numpy/Pandas, SQL databases, Matplotlib)
- Applying programming skills towards development of GUIs, web apps, and electronics
- Transfer of basic programming principles to alternative programming languages/environments (*e.g.* MATLAB, C++, HTML and more)

The course will consist of 15 in-person lectures (each with a duration of one hour) as well as interactive exercises and practical challenges for the students to complete.

The course will commence around the start of the summer semester (1st – 7th March 2026) and will be taught in English by Dr. Steven Linfield (Group 12 – Sensor Arrays). Registration will be open until 28th February 2026. The course is also open to attendance from postdocs and other senior researchers from the Institute.

For further details, please send an email to slinfield@ichf.edu.pl

(The availability of this lecture course depends on whether at least three Warsaw4PhD students are registered.)