

# Example Timetables

Here are some real examples of In2STEM placement schedules from previous years. If you have any questions or would like further support, please get in touch.

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## Maths

| Time          | Monday  | Tuesday  | Wednesday  | Thursday   | Friday  |
|---------------|---|--|--|--|---|
| 9:00 - 12:00  | Initial meeting:<br>Inductions, orientation and school tour   | Student presentations:<br>Each pair reported back on their findings and reasoning for their assigned problem and topic.<br><br>Discussion about how their topics connect                                       | Student presentations:<br>Each group presents a bijection.<br><br>Watch video as a group                               | Report writing:<br>Students to write up their findings.<br><br>Staff provide feedback and guidance about students' written work. | Staff research presentations:<br>Introduction to staff research specialisms and cutting edge research taking place in the department. |
| 12:00 - 13:00 | Lunch - School's refectory  | Lunch  | Lunch  | Lunch  | Lunch   |
| 13:00 - 15:00 | Introduction to key topics and mathematical concepts:<br><br>Students were put in pairs and assigned a topic (e.g. triangulation, rooted trees, parenthesization).<br><br>Students were shown examples of how to solve a simple problem for their topic (eg for $n = 2$ or $n = 5$ ) and students were asked to find a pattern so that they could solve the problem with other values eg $n = 14$ . | Introduction to more key topics and mathematical concepts:<br><br>Students were introduced to the topic of bijections. Students were given examples of bijections and then asked to make up their own examples | Free Afternoon:<br><br>Opportunities to meet staff, ask questions and discuss career pathways into and within academia | Report writing:<br><br>Students continue to work on their writing  | Goodbye talks:<br><br>Reflections on the week.  |
| 15:00         | Depart  | Depart   | Depart   | Depart   | Depart  |

# Microbiology

| Time  | Monday  | Tuesday  | Wednesday   | Thursday                                | Friday                |
|-------|---|--|---|---|-----------------------|
| 10:00 | Project admin and                                 | Wet Lab- Microbes introduction and experimental design | Walk to BioHub  | Wet Lab - wash cells & apply to filters | Wet Lab - Read plates |
| 10:30 |   |  | BioHub Tour   |   | Break                 |
| 11:00 | Break   | Break  |   | Break                                   | Journal club          |
| 11:30 | Lab safety induction                              | Meet a PhD student                                     | Walk to lab   | Wet Lab - read plates                   |                       |
| 12:00 |   | Wet Lab - swab and streak plates                       | Wet Lab - read plates                                 | CV workshop                             | In2STEM competition   |
| 12:30 | Lunch - campus outlets                            |  | Lunch   |   |                       |
| 13:00 |   | Lunch  |   | Lunch                                   | Lunch                 |
| 13:30 | Group interview                                   |  | Wet Lab - Antimicrobial intro and experimental design |   |                       |
| 14:00 |   | 'How to read a research paper'                         | Wet Lab - prepare plates                              | Journal club preparation                | Museum trip           |
| 14:30 | Introduction to practical microbiology techniques |  | Wet Lab - Transfer of AMR intro & inoculate           | Wet Lab - serial dilution and spread    |                       |
| 15:00 |   |  |   |   |                       |
| 15:30 | Wet Lab - streak plates with test strains         | Wet Lab - innoculate media                             |   |   | Exit survey           |
| 16:00 | Depart  | Depart   | Depart  | Depart                                  | Depart                |

## Medicine (Cancer Research/Histology)

| Time  | Monday                                      | Tuesday  | Wednesday                              | Thursday   | Friday                             |
|-------|---|--|--|--|------------------------------------|
| 10:30 | Meet at reception<br>Welcome & Introduction | Histology: background information presentations      | Lab report – how to write one exercise | Communication in science: presentation and literature review | Students' presentation             |
| 11:00 | Health and safety briefing                  | Histology department tour                            |  |  | Image analysis – Tool and exercise |
| 11:30 | Tour of the lab                             |  | Internal seminar                       | Guidance on university application etc                       |                                    |
| 12:00 | Lunch                                       | Lunch  |  |  | Lunch                              |
| 12:30 | Presentations                               |  | Lunch                                  | Exercises & time to work on challenges                       |                                    |
| 13:00 |   | Set up a staining                                    | Final remarks                          |  |                                    |
| 13:30 | Lab pipetting exercise                      | Imaging: tour to the microscope, the opera, and BAIR |  | Depart   | Depart                             |
| 14:00 |   |  | Focusing on challenges                 |  |                                    |
| 14:30 | Focusing on challenges                      | Imaging: tour to the microscope, the opera, and BAIR | Depart                                 | Depart   | Depart                             |
| 15:00 |   |  |  |  |                                    |
| 15:30 | Depart                                      | Depart   | Depart                                 | Depart   | Depart                             |
| 16:00 | Depart                                      | Depart   | Depart                                 | Depart   | Depart                             |

# Computer science 1

| Time  | Monday                              | Tuesday                                      | Wednesday   | Thursday   | Friday   |
|-------|-------------------------------------|--|---|--|--|
| 10:00 | Introduction                        | Set up students with a project for the week  | UCAS: university application discussion. Informal chat with CDT | Talk from a doctor   | In2STEM competition OR project   |
| 10:30 |                                     |  |   |  |  |
| 11:00 | Networking with the rest of the CDT |  | Go through paper which will be discussed in the journal club    | Project time: students to discuss their project with other CDT members |  |
| 11:30 |                                     |  |   |  |  |
| 12:00 | Campus tour                         |  | Market Lunch  |  | Conference: students to present the projects they have been working on |
| 12:30 |                                     |  |   |  |  |
| 13:00 | Lunch                               | Lunch  | Escape room   | Lunch  |  |
| 13:30 |                                     |  |   |  |  |
| 14:00 | Training with relevant software     | Join meeting with director and discuss paper |   | Meet CDT directors   |  |
| 14:30 |                                     |  |   |  |  |
| 15:00 |                                     | Ethics in AI and healthcare                  | Journal club  | Project time   |  |
| 15:30 |                                     |  |   |  | Reflections on the week  |
| 16:00 | Depart                              | Depart                                       | Depart  | Depart   | Depart   |

## Computer science 2

| Time  | Monday   | Tuesday  | Wednesday  | Thursday   | Friday   |
|-------|--|--|--|--|--|
| 10:00 | Department tour  | Work with a member of staff investigating small robot kits and using them with Coder Dojos | Discussion: robotic demonstrations with NAO robots for use at university open days and similar events.<br><br>Students to work with NAO robots developing programs and ideas for public engagement | Continued work with NAO robots.<br><br>Programming day for the research group: other activities in the lab with staff and PhD students working on programming tasks and discussing their programming problems.<br><br>Discussions around university life more generally. | Final decisions around public engagement demonstrations.<br><br>Students to work on their presentations. |
| 10:30 | Lab induction and signing risk assessments   |  |  |  |  |
| 11:00 |  |  |  |  |  |
| 11:30 | Research meeting: everyone in the research group present their area of expertise and interests (ensuring accessibility for students) |  |  |  |  |
| 12:00 |  |  |  |  |  |
| 12:30 | Set up robot lab with tutorial resources for NAO robots  |  |  |  |  |
| 13:00 | Lunch  | Lunch  | Lunch  | Lunch  | Lunch  |
| 13:30 |  |  |  |  |  |
| 14:00 | Work on robot tutorials  | Continue morning's task  | Continue morning's task  | Continue morning's task  | Students to work on their presentations.   |
| 14:30 |  |  |  |  |  |
| 15:00 |  |  |  |  | Presentation of final NAO robot demos by the students to staff and PhD students.                         |
| 15:30 |  |  |  |  |  |
| 16:00 | Depart   | Depart   | Depart   | Depart   | Depart   |

# Civil Engineering

| Time  | Monday   | Tuesday   | Wednesday  | Thursday  | Friday   |
|-------|--|---|--|---|--|
| 10:00 | Welcome & introductions  | Presentations: Degree level apprenticeships   | Students work independently on Euston Station Tasks                        | Energy Talk   | Leadership Workshop and 'Meet the Boss' Q&A                        |
| 10:30 | Outline for the week<br>Team building activity   | Carbon and Cost Intelligence Apprenticeship Overview  | Breakout 1: Day in the life of an Economist                                | Health and safety briefing                          |  |
| 11:00 | Introduction to careers in STEM  | Meet an Estimator   | Students work independently on Euston Station Tasks                        | HR talk   | Break  |
| 11:30 | Presentation: Meet an engineer   | Applying for Apprenticeships: What do job adverts look like?<br>How do I apply and how can I ace an interview?  |  |   | Finalise Euston Station Tasks                                      |
| 12:00 | Bridge building activity   | Prep for mock interviews. Q&A with Apprentices  |  | Travel to site                                      |  |
| 12:30 |  |   |  |   |  |
| 13:00 | Lunch  | Lunch   | Lunch  | Site visit  | Lunch  |
| 13:30 |  |   |  |   |  |
| 14:00 | Euston Station activity  | Mock interviews: 15 minute slots with questions and instant feedback<br><br>While students wait for their slot, they will work on the Euston Station activity | Breakout 2: Day in the life of a PM  | Return from site visit                              | Closing Euston Station Presentations                               |
| 14:30 |  |   | Students work independently on Euston Station Tasks                        |   |  |
| 15:00 |  |   |  |   |  |
| 15:30 | Bridges to Prosperity  | Reflection diary, recap the day's aims and talk through the following day's objectives  | Breakout 3: Cost masterclass   | Students work independently on Euston Station Tasks |  |
| 16:00 | Reflection diary, recap the day's aims and talk through the following day's objectives | Remind them to bring packed lunches   | Set homework: watch Ground Source Heat Pumps video and read the case study |   | Reflection diary, recap the weeks aims and how objectives were met |

# Environmental Engineering

| Time  | Monday                                    | Tuesday                          | Wednesday                    | Thursday                         | Friday  |  |
|-------|---|----------------------------------|------------------------------|----------------------------------|---|--|
| 10:00 | Welcome & Induction                       | Artificial Intelligence training | Particle size measurements   | Meet with scientists             | Soil lab practical in geography                 |  |
| 10:30 |   |                                  |                              |                                  |   |  |
| 11:00 | Campus tour by student ambassador         |                                  | Geography analysis lab       | Preparing the presentation       | Preparing the presentation                      |  |
| 11:30 |   |                                  |                              |                                  |   |  |
| 12:00 | Lunch                                     | Lunch                            | Lunch                        | Lunch                            | Lunch   |  |
| 12:30 |   |                                  |                              |                                  |   |  |
| 13:00 | Introduction of the group                 | Career pathway discussion        | Preparing the presentation   | Mass spectrometry lab            | Presentation by students on their topics        |  |
| 13:30 |   |                                  |                              |                                  |   |  |
| 14:00 | Introduction to Library search            | Artificial Intelligence practice | Library skills, presentation | Stable Isotope / Mineral XRD lab |   |  |
| 14:30 |   |                                  |                              |                                  |   |  |
| 15:00 | Find a paper of interest, print out, read | Bridge design game               | Preparing the presentation   | Preparing the presentation       | Presentations by students and career discussion |  |
| 15:30 |   |                                  |                              |                                  |   |  |
| 16:00 | Depart                                    | Depart                           | Depart                       | Depart                           | Depart  |  |

## Environmental/chemical Engineering

| Time                | Monday   | Tuesday  | Wednesday   | Thursday   | Friday   |
|---------------------|--|--|---|--|--|
| 10:00<br>–<br>12:30 | <p>Informative presentation on the current situation of the agroindustry, particularly focused on the challenges and solutions of processing organic manures for mitigation of gaseous emissions and nutrient valorization.</p>                | <p>Implement the parallel circuits of carbon fiber around the stabilization box, including a waterproof box for the connections in the busbars.</p> <p>Confirm that the heating circuit works for the desired power consumption.</p>   | <p>Feed the prototype with the liquid fraction of the anaerobic digestate, which is known as liquor (WRAP, 2014), and test different types of dehydrating agents: CaCl<sub>2</sub>, NaCl, and MgCl<sub>2</sub>.</p> <p>Observation of the deliquescence phenomena and determination of the rate of brine formation.</p> | <p>Stop the operation of the prototype and sampling of the brine formed and the concentrated liquor.</p> <p>Manual granulation of the solid fraction of the anaerobic digestate, which is known as fibers (WRAP, 2014), using the concentrated liquor as binding agent. The performance of this material is compared to the quicklime self-hardening effect.</p> | <p>Titration of the filtered brine and comparison with the titration of a saturated solution of the salt employed as dehydrating agent (e.g., 74.5 g CaCl<sub>2</sub>/100 mL), to determine the absorption of CO<sub>2</sub> and NH<sub>3</sub>.</p> <p>Mixing the brine with acetone (i.e., antisolvent) and decrease the temperature to promote the supersaturation, precipitation, and isolation.</p> |
| 12:30<br>–<br>13:30 | Lunch  | Lunch  | Lunch   | Lunch  | Lunch  |
| 13:30<br>–<br>15:30 | <p>Laboratory and workshop inductions, correct use of the personal protective equipment.</p> <p>Perforation of the propylene box to integrate the electric circuit with the carbon fiber heating cable around the manure stabilizing tank.</p> | <p>Use the double aluminum bubble thermal reflector panel to insulate the stabilization tank. Continue assembling the artifact on the trolley to allow all parts remain connected while still enabling mobility of the artifact.</p> <p>Characterization of the rate of heating of the stabilization tank.</p> | <p>Preparation of the questions for the primary market research to find out the suitability of the prepared prototype to address the potential customer' needs.</p> <p>Phone call to a supplier of the samples of the anaerobic digestate liquor.</p>   | <p>Operate the artifact with the granules of organic fertilizer in the stabilization tank to allow the maturation and self-hardening.</p> <p>Charge more anhydrous salt in the condensation tank. Vacuum filtration of the brine to remove suspended particles of calcium carbonate.</p>   | <p>Isolate the precipitated salt by decantation and FTIR analysis to determine the composition and structure by comparing the spectrum to those of pure compounds: CaCl<sub>2</sub>, CaCO<sub>3</sub>, and NH<sub>4</sub>Cl.</p> <p>Removal of the granules from the artifact and subsequent compression testing.</p>  |
| 16:00               | Depart   | Depart   | Depart  | Depart   | Depart   |



| Time                | Monday   | Tuesday  | Wednesday   | Thursday  | Friday   |
|---------------------|--|--|---|---|--|
| 10:00<br>–<br>12:30 | <p>Welcome &amp; Complex Systems talk: run through the programme for the week, talk about what we hope you will get from the week, and team introductions.</p> <p>Talk two: How complexity and emergence crop up everywhere around us and what this can tell us about ways of understanding our world. Looking at leaves and roads, mountains and cities, complexity is a powerful tool with which to understand the world we live in.</p> | <p>Conceptualising Gentrification: Talk about The Science of Urban Change provide some background on the concept.</p> <p>Read the foundational text by UCL's Ruth Glass, how it builds on yesterday's topics, and some initial ideas about what students should be looking out for on the field trip.</p> <p>Review the history of Brixton as a site of change and resistance.</p> | <p>Making a Map: An introduction to QGIS and the basics of getting a new project set up, including: adding a background to get oriented, selecting and adding OpenStreetMap data, and adding and joining vector data.</p> | <p>Working with Sensors</p>   | <p>Maps as Storytelling: Present the Memory Mapper project and the context of Maps as Storytelling.</p> <p>Students will collect personal geo-data as part of a reflection on the past and future of the Olympic Park.</p>   |
| 12:30<br>–<br>13:30 | Lunch  | Lunch  | Lunch   | Lunch   | Lunch  |
| 13:30<br>–<br>15:30 | <p>Simulating Neighbourhood Change: Use NetLogo to explore how emergence (and the concept of feedback) can be a useful tool for understanding how neighbourhoods might change thanks to nothing more than a slight preference.</p> <p>Using a 'simple' model, consider George Box's assertion that "All models are wrong but some are useful."</p>   | <p>Field Trip to Brixton &amp; Debrief: take the Tube to Brixton.</p> <p>Do a purposeful walk around its market, high street, and residential areas using an investigative, research-oriented approach in order to think more deeply about what we're seeing and how it does/ does not mark out change and continuity.</p> <p>Come back for a debrief and discussion.</p>          | <p>Mapping Gentrification: Building on the first half of the day, talk about presenting and comparing data, asking questions about the data and, printing out a map.</p>  | <p>Programming a Sensor: In teams, write code to be run by an Arduino sensor. Students will then vote on the most interesting projects.</p> | <p>Reflection &amp; Write-up: What was learned and how it has shaped thoughts about studying STEM (or other) disciplines at university!</p> <p>Our objective here is: 1) to learn from experiences; and 2) to provide a chance to produce something that students can reference in UCAS personal statements.</p> |
| 16:00               | Depart   | Depart   | Depart  | Depart  | Depart   |



Visit our [website](#) or contact us at [hosts@in2scienceuk.org](mailto:hosts@in2scienceuk.org) for more information

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