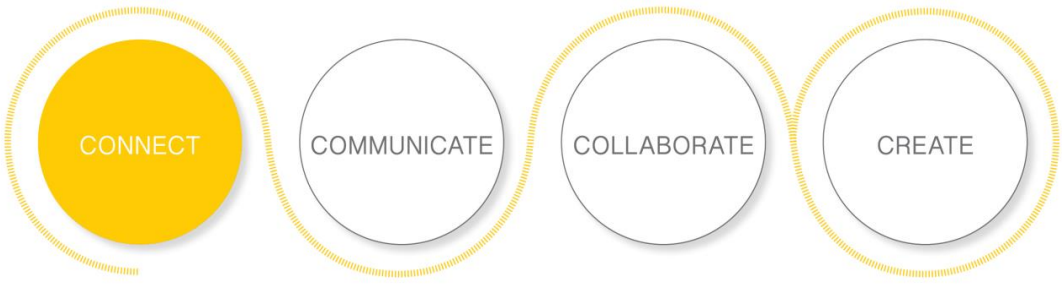
Course Outline

SCIF1131

Introductory skills for science

Faculty of Science

Semester 2 2018



CRICOS Provider Code 00098G

1. Staff

Position	Name	Email	Consultation times and locations	Contact Details
Course Convenor and tutor	Suzanne Schibeci	suzanne.schibeci@unsw.edu.au	By appointment	Via email or during class
Tutors	Alicia Bergonia	To be given by tutors in class	During class time	
	Imrana Kabir			

2. Course information

Units of credit: 6

Teaching times and location.

Introductory lecture 9am Wednesday 25 July 2018, CLB8

You should also be enrolled in one of the following:

Tutorial time	Location
Wednesday 9am	Mathews 104
Wednesday 11am	Mathews 104
Thursday 3pm	Mathews 227

http://www.timetable.unsw.edu.au

2.1 Course summary

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In science, very few great ideas are created in isolation. Connections between like-minded individuals, as well as building on past and present ideas, are the foundation for innovation. Development of these ideas requires collaboration (fitting different pieces together and critical appraisal) and communication for wider awareness.

So, as well as technical skills, employers look for graduates who are proficient in the 'C' characteristics in the course motto. A greater focus on this learning model has the potential to close the gap between the technical education provided in most courses in a degree and the needs of the workplace. You will be practising these four characteristics in a variety of ways throughout this course.

2.2 Course aims

1. **Practise in Graduate Attributes**

This course aims to explore through instruction, activities and assessment tasks, a range of skills relevant to your professional future: communication, networking and teamwork. There is also a focus on the learning process, which will be emphasised throughout the course.

2. **Opportunity to connect with other students in Medical Science, Advanced Science, Advanced Mathematics and related Programs**

The course engages students with each other, encouraging an exchange of experiences and ideas. Students will also connect with academic and professional staff, both within and outside the University. This connection builds a cohesive cohort, bringing with it a sense of belonging to an academic and professional community, in an environment which can be isolating.

3. **Practise in computer coding using Python**

Learning a computer coding language fosters logic and problem-solving skills. Python is a simple and versatile language which can be used in variety of applications, giving students a good grounding and understanding of the fundamentals of coding as well as useful language to use in a range of applications.

2.3 Course learning outcomes (CLO)

By the end of the course students will have:

1. **Established peer-to-peer connections** to form a cohesive community of learners and formed networks with teachers and other academics.

2. **Practised and increased confidence in the skills of effective communication.** You will practice and enhance your ability to communicate with each other, with other professionals and with the general community, through writing, presentations and oral communication, discussion and debate.

3. **Practised the skills required for collaborative and multidisciplinary work**. You will enhance your ability to work within teams in the development of a product or management of a project, through self and peer evaluation and self-reflection.

4. **Practised the capacity for problem solving, critical thinking, initiative and creativity**, the processes which support innovation. You will have developed attitudes towards personal initiative and be provided with the opportunity to refine independent thought.

5. **A grounding in Python,** which can be used in variety projects, or as a stepping stone to other coding languages. This should lead to a

    a. Demonstrated awareness and understanding of the core ideas behind computer programming
    b. Demonstrated understanding and basic application of the Python programming language

2.4 Relationship between course learning outcomes and assessments

Course Learning Outcome (CLO)	LO Statement	Related Tasks & Assessment
CLO 1	Peer to peer connections	• Tutorial groups will foster a peer to peer community, as well as the group assessments. • Specifically, tutorial topics on Networking, teamwork and group work • Assessment 1
CLO 2	Effective communication	• Discussion and contribution will be encouraged during tutorial classes. • Specific classes addressing communication are Written communication, Oral communication, Managing conflict, Presentations • Assessments 1 and 2
CLO 3	Collaboration and multidisciplinary work	• Tutors will ask you to form groups to solve problems or discuss concepts. • Specific classes are Networking, Teamwork, Groupwork. • Assessment 1, peer review of presentations and video
CLO 4	Problem solving, critical thinking, initiative and creativity	• Tutorial classes will emphasise the use of collaboration and discussion to come up with a solution to problems posed. Python will also foster creative and logical thinking and problem solving. • Specific classes addressing these skills are Managing conflict, Innovation and leadership, Critical thinking and problem solving and Ethics • Assessments 1 and 4
CLO 5	A grounding in Python	• Assessments 3 and 4

3. Strategies and approaches to learning

3.1 Learning and teaching activities

The Graduate Attributes will be practised in weekly face-to-face tutorials. These class times will rely heavily on group discussion, team work and participation to practise and consolidate concepts. Python will be covered in a series of weekly on-line modules and weekly quizzes, contributing to the final course mark.

There will be weekly face-to-face consultation times (TBA) available for those students who require assistance in Python. There will also be on-line help through forums and a weekly or biweekly live chat for those who wish questions to answered in real time. Times are not yet determined, but are flexible depending on demand.

3.2 Expectations of students

- Student attendance will be recorded at the weekly face-to-face classes. Absences must be explained by a medical certificate or equivalent. Any student with an unexplained absence will forfeit the marks for assessable tasks from that class (if applicable).
- Participation of students in the on-line tasks will be monitored throughout the term. Students will be expected to complete the on-line module scheduled including the quiz within that week.
- There are several means of communication associated with this course.
    - All course-wide information will be placed in the announcement section of Moodle. Please read all these postings as they will be relevant to every student in the course.
    - Students can ask questions via the Q and A forum in Moodle. It is worthwhile to read all of these as you may have the same question.
    - Important information will be emailed directly to your UNSW email address. If you wish to email questions to the course convener, you are again required to use your UNSW email address.

4. Course schedule and structure

This course consists of 2 hours weekly tutorial and weekly on-line modules to learn Python, including weekly on-line quizzes. These modules will require 3-4 hours of reading and practising. You are expected to take an additional 3 hours per week outside of class to complete team assessment task meetings and preparation.

Week [Week beginning]	Tutorial topic	Python modules	Tasks/ Assessments
Week 1 [23 July]	Introductory Lecture (9am Wednesday 25 July)		
Week 2 [30 July]	Introductions and Networking	An introduction to Python. Variables and operators	Quiz LinkedIn
Week 3 [6 August]	Teamwork	Data types, built-in functions and string methods	Quiz
Week 4 [13 August]	Group work	Python syntax	Quiz Contract
Week 5 [20 August]	Written communication	Built-in modules (Python libraries)	Quiz Preliminary Proposal
Week 6 [27 August]	Oral communication	IDE and Python distributions	Quiz
Week 7 [3 September]	Managing conflict	List data type	Quiz Reflection
Mid semester break (8 September – 1 October)			
Week 8 [17 September]	Innovation and leadership	Dictionary data types and set data types	Quiz Reflection
Week 9 [24 September]	Critical thinking and problem solving	The os module	Reflection
Week 10 [1 October]	Ethics	NumPy and MatPlotLib	Reflection
Week 11 [8 October]	Presentations		Presentation review
Week 12 [15 October]	Presentations		Presentation review
Week 13 [22 October]		Python test	Video Review Team evaluation

5. Assessment

5.1 Assessment tasks

Assessment task	Mark	Due date
Assessment 1: Interview with a scientist, consisting of formative or progressive subparts: 1. team contract 2. video 3. Assessment of other teams' videos 4. team evaluation.	25%	1. 11.59pm Friday Week 4 2. 11.59pm Friday Week 10 3. 11.59pm Friday Week 12 4. 11.59pm Friday Week 12
Assessment 2: Tutorial activities, including individual presentation	30% (including 15% presentation)	11.59pm on the day of tutorial Presentation Week 11 or 12 during class (order TBD)
Assessment 3: Python on-line quizzes	25%	2 weeks after module commencement
Assessment 4: Python test	20%	Week 13

Further information

UNSW grading system: student.unsw.edu.au/grades

UNSW assessment policy: student.unsw.edu.au/assessment

5.2 Assessment criteria and standards

Rubrics for each assessment task will be provided in Moodle two to three weeks out from submission date.

Assessment criteria for each task will necessarily vary, but in general will include effective, precise and engaging communication, evidence of effective and productive team work, evidence of building connections between skills practised in the classroom and those required professionally, recognition by students of the skills needing improvement through critical self-reflection.

5.3 Submission of assessment tasks

Submission of the assessment tasks will be mainly through Moodle and will vary from task to task. Quizzes, assessments, workshops, OU blogs and forums will all be used for submission. Presentation feedback will be via Moodle, with marks provided in Moodle gradebook. Examination will be centrally timetabled.

Late submissions will be penalised at a rate of 10% per day (including weekends and public holidays), unless Special Consideration is sought. Appropriate notification to the course convener, along with an application and documentation submitted in Special Consideration link in myUNSW, is required. There will be no extension granted for the Video assignment, as it is a team task.

5.4. Feedback on assessment

Unless stated otherwise, feedback will be provided within a fortnight of submission of a task or sub-task.

6. Academic integrity, referencing and plagiarism

Harvard method of referencing is the preferred method in this course. For an example of information and help, please look at http://www.citethisforme.com/au/referencing-generator/harvard.

Referencing is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.

Further information about referencing styles can be located at student.unsw.edu.au/referencing

Academic integrity is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits**:** honesty, trust, fairness, respect, responsibility and courage.[1] At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.

Further information about academic integrity and **plagiarism** can be located at:

- The *Current Students* site student.unsw.edu.au/plagiarism**,** and
- The *ELISE* training site subjectguides.library.unsw.edu.au/elise

The *Conduct and Integrity Unit* provides further resources to assist you to understand your conduct obligations as a student: student.unsw.edu.au/conduct.

[1] International Center for Academic Integrity, 'The Fundamental Values of Academic Integrity', T. Fishman (ed), Clemson University, 2013.

7. Readings and resources

All resources for Graduate Attribute tutorials will be provided in Moodle or in-class. The on-line modules will also be available on Moodle.

8. Administrative matters

As this course is run under the Faculty of Science, please note that the Faculty contacts serve this role though School contacts may be relevant if the grievance concerns discipline modules. If you do have a grievance, it is best to discuss this first with your tutor and, then, if necessary, the course convener and/or one of the Faculty contacts.

Faculty Contacts

Ass. Prof. Janelle Wheat
Deputy Dean (Education)
j.wheat@unsw.edu.au

Dr Gavin Edwards
Associate Dean Undergraduate
g.edwards@unsw.edu.au

University Contact

Student Conduct and Appeals Officer (SCAO) within the Office of the Pro-Vice-Chancellor (Students) and Registrar. Telephone 02 9385 8515, email studentcomplaints@unsw.edu.au. University Counselling and Psychological Services[2] Tel: 9385 5418

9. Additional support for students

- The *Current Students* Gateway: student.unsw.edu.au
- Academic Skills and Support: student.unsw.edu.au/skills
- Student Wellbeing, Health and Safety: student.unsw.edu.au/wellbeing
- Disability Support Services: student.unsw.edu.au/disability
- UNSW IT Service Centre: www.it.unsw.edu.au/students

[2] University Counselling and Psychological Services