

Students will meet at HW 113/114 where they will be collected by the lead member of staff. This will be your referral point for your time at Strathclyde.

- Classes normally start at 9:00 and end at 5:00
- There is a comfort break every day from 10:00 – 10:30
- Refreshments can be bought at various locations on campus and consumed in the various social areas
- Lunches are served at 12:00. Catering will cover a meal for two staff members each lunchtime – feel free to join the students.

Afternoon sessions start at 2:00

Monday 6 th July 2020 – Friday 31 st July 2020	09:00-10:00 <u>Activity</u> Staff Learning Objective	<u>10:00</u> = <u>10:30</u> BREAK	10:30-12:00 <u>Activity</u> Staff Learning Objective	<u>12:00 –</u> <u>14:00</u> LUNCH	14:00 – 17.00 <u>Activity</u> Staff Learning Objective
Mon 6 th July	09:00-10:00 <u>Welcome</u> Eddie		10:30-11:30 <u>Safety</u> Lorraine Allan Familiarisation with UoS and laboratory safety		14:00-15:00 <u>Library Tour</u> Lorna Gilkison (Research & Learning Support) Accessing literature
Tue 7 th July	Immunology <u>Laboratory</u> Linda Horan, Chris Carter & Catherine Lawrence Understanding how a Biological procedure unit operates and how to determine the numbers of parasites in a sample.		Immunology <u>Laboratory</u> Linda Horan, Chris Carter & Catherine Lawrence Understanding how a Biological procedure unit operates and how to determine the numbers of parasites in a sample.		Immunology <u>Workshop activity</u> Linda Horan, Chris Carter & Catherine Lawrence Presentation skills of scientific data from selected papers
Wed 8 th July	Immunology <u>Laboratory</u> Linda Horan, Chris Carter & Catherine Lawrence Understanding the role of the immune system in conferring immunity to parasitic infection: discussions.		Immunology <u>Laboratory</u> Linda Horan, Chris Carter & Catherine Lawrence Understanding the role of the immune system in conferring immunity to parasitic infection: discussions.		Immunology <u>Critical appraisal of scientific data; paper interpretation:</u> <u>Immunity to parasites</u> Linda Horan, Chris Carter & Catherine Lawrence Workshop activity

		<p>10:00 – 10:30 BREAK</p>		<p>12:00 – 14:00 LUNCH</p>	<p>15:00-17:00 English Language Class Contact for ELT – Gemma Archer / Ben Brown English language and critical reading Three Groups: HW111-HW112, HW113-HW114 & HW323</p>
Thu 9 th July	<p><u>Pharmacy</u> Ian Towle To understand: NHS and Pharmacy infrastructure, MPharm undergraduate teaching & Herbal Medicines use in UK</p>		<p><u>Pharmacy</u> Ian Towle To understand: NHS and Pharmacy infrastructure, MPharm undergraduate teaching & Herbal Medicines use in UK</p>		<p>Practical Session in <u>dispensary</u> Ian Towle To understand: How to label medicines and dispense medication against a prescription</p> <hr/> <p>15:00-17:00 English Language Class Contact for ELT – Gemma Archer / Ben Brown English language and critical reading Three Groups: HW111-HW112, HW113-HW114 & HW323</p>
Fri 10 th July	TBC				<p>15:00-17:00 English Language Class Contact for ELT – Gemma Archer / Ben Brown English language and critical reading Three Groups: HW113-HW114, HW324 & TBC</p>

	09:00-10:00 Activity Staff Learning Objective		10:30-12:00 Activity Staff Learning Objective		14:00-17.00 Activity Staff Learning Objective
Mon 13th July	<u>Physicochemical properties</u> Nik Rattray Lina Akil Sara Campbell Understand and appreciate ionisation and lipophilicity of drug molecules and how this affects their properties.	10:00 – 10:30 BREAK	<u>Physicochemical properties</u> Nik Rattray Lina Akil Sara Campbell Understand and appreciate ionisation and lipophilicity of drug molecules and how this affects their properties.	12:00 – 14:00 LUNCH	<u>Chromatography (DGW)</u> Nik Rattray Lina Akil Sara Campbell Understand what chromatography is. Appreciate the basic principles of high performance liquid chromatography (HPLC), in particular reversed-phase chromatography. Understand the basics of electrospray LC-MS
Tue 14 th July	<u>LC/MS lab</u> Lina Akil Sara Campbell Understand and apply how chromatographic techniques can be used to analyse paracetamol in tablets and how LC-MS can be used to identify degradants.		<u>LC/MS lab</u> Lina Akil Sara Campbell Understand and apply how chromatographic techniques can be used to analyse paracetamol in tablets and how LC-MS can be used to identify degradants.		<u>LC/MS lab</u> Lina Akil Sara Campbell Understand and apply how chromatographic techniques can be used to analyse paracetamol in tablets and how LC-MS can be used to identify degradants
Wed 15 th July	<u>LC/MS lab</u> Lina Akil Sara Campbell Understand and apply how chromatographic techniques can be used to analyse paracetamol in tablets and how LC-MS can be used to identify degradants.		<u>LC/MS lab</u> Lina Akil Sara Campbell Understand and apply how chromatographic techniques can be used to analyse paracetamol in tablets and how LC-MS can be used to identify degradants.		<u>LC/MS lab</u> Lina Akil Sara Campbell Understand and apply how chromatographic techniques can be used to analyse paracetamol in tablets and how LC-MS can be used to identify degradants.
Thur 16 th July	<u>LC/MS lab</u> Lina Akil Sara Campbell Understand and apply how chromatographic techniques can be used to analyse paracetamol in tablets and how LC-		<u>LC/MS lab</u> Lina Akil Sara Campbell Understand and apply how chromatographic techniques can be used to analyse paracetamol in tablets and how LC-		<u>LC/MS lab</u> Lina Akil Sara Campbell Understand and apply how chromatographic techniques can be used to analyse paracetamol in tablets and how LC-

	MS can be used to identify degradants.		MS can be used to identify degradants.		MS can be used to identify degradants.
Fri 17 th July	Glasgow Fair Holiday		Glasgow Fair Holiday		Glasgow Fair Holiday
Mon 20 th July	Glasgow Fair Holiday		Glasgow Fair Holiday		Glasgow Fair Holiday
	09:00-10:00 <u>Activity</u> Staff Learning Objective		10:30-12:00 <u>Activity</u> Staff Learning Objective		14:00-17.00 <u>Activity</u> Staff Learning Objective
Tue 21 st July	09:00-10:00 <u>Pharmacology Lecture</u> EGR Understand the principles of pharmacology and the construction of CRC with and without an antagonist	10:00 = 10:30 BREAK	10:30 – 12:30 <u>CAL lab – GPI simulation</u> EGR Understand the principles of pharmacology and the construction of CRC with and without an antagonist	12:00 – 14:00 LUNCH	14:00-15.00 <u>Pharmacology</u> <u>In vitro laboratory</u> EGR Lecture – Lab preparation 15:00-17.00 <u>In lab</u> EGR In Vitro Pharmacology Calculate EC50s
Wed 22 nd July	<u>Practical Session in dispensary</u> Ian Towle, Pernille Sorensen and Louise Evans To use Simman and other tools to understand management of cardiovascular and respiratory conditions To learn and Medicines Recon		<u>Practical Session in dispensary</u> Ian Towle, Pernille Sorensen and Louise Evans To use Simman and other tools to understand management of cardiovascular and respiratory conditions To learn and Medicines Recon		<u>Practical Session in dispensary</u> Ian Towle, Pernille Sorensen and Louise Evans Understand concept of accuracy checking of prescriptions and use of communication skills to educate patients
Thu 23 rd July	<u>Biochemistry - 3rd year enzyme kinetics lab</u> Luke Chamberlain Understand enzyme kinetics and data analysis		<u>Biochemistry - 3rd year enzyme kinetics lab</u> Luke Chamberlain Understand enzyme kinetics and data analysis		<u>Biochemistry - 3rd year enzyme kinetics lab analysis and discussion</u> Luke Chamberlain Understand enzyme kinetics and data analysis
Fri 24 th July	<u>Biochemistry (lab)</u> Ben Pickard Green Fluorescent Protein:		<u>Biochemistry (lab)</u> Ben Pickard Green Fluorescent Protein:		<u>Biochemistry</u> Ben Pickard Lorenzo's oil film and quiz

	<p>1. Make a 3D model of GFP</p> <p>2. Streak out GFP cells on agar plates</p> <p>3. Determine the results of complex interactions of fluorescent proteins in cells.</p> <p>The understanding that molecular tools such as GFP can make an enormous contribution to the scientific understanding of biological processes.</p>	<p>10:00 – 10:30 BREAK</p>	<p>1. Make a 3D model of GFP</p> <p>2. Streak out GFP cells on agar plates</p> <p>3. Determine the results of complex interactions of fluorescent proteins in cells.</p> <p>The understanding that molecular tools such as GFP can make an enormous contribution to the scientific understanding of biological processes.</p>	<p>12:00 – 14:00 LUNCH</p>	<p>Understanding the link between a genetic condition and its therapy.</p>
	<p>09:00-10:00 <u>Activity</u> Staff Learning Objective</p>		<p>10:30-12:00 <u>Activity</u> Staff Learning Objective</p>		<p>14:00–17.00 <u>Activity</u> Staff Learning Objective</p>
Mon 27 th July	<p><u>Cancer biology Lecture/tutorial</u> Marie Boyd & Annette Sorensen Understand the principles of cancer, how and why it occurs, what it looks like, and how it is treated.</p>		<p><u>Cancer biology Lecture/tutorial</u> Marie Boyd & Annette Sorensen Understand the principles of cancer, how and why it occurs, what it looks like, and how it is treated.</p>		<p><u>Cancer workshop</u> Marie Boyd & Annette Sorensen Students in groups develop their own campaign and present to the whole class. Cancer quiz. Develop and critically appraise cancer prevention advertising campaigns.</p>
Tue 28 th July	<p>09:00-09:05 <u>IBiolC</u> Introduction to the day and the team</p> <p>9:05-9:30 What is Industrial Biotechnology and why is it important?</p> <p>09:30-10:30 IB in Scotland</p> <p>Insight Institute, Collins Building</p>		<p>11:00-11:30 <u>Careers in IB</u></p> <p>11:30-12:30 <u>Guest Industry lecture</u> Understanding Industrial Biotechnology</p> <p>Insight Institute, Collins Building</p>		<p>14:00-15:45 <u>Three workshops:</u></p> <ul style="list-style-type: none"> • YSI demo • Meet the students • RBPC tour <p><u>Instrument set up in a separate (larger) lab.</u> Short demos by Russell at YSI</p> <p><u>Meet the students:</u> Three interns in a booked room giving short presentation of their route to IB, how they got there and</p>

CPU SUMMER SCHOOL 2020

					<p>why with rooms for Q&A</p> <p>RBPC Tour: Tour of IBioIC with short demos on some kit that is currently working.</p> <p>Insight Institute, Collins Building</p>
Wed 29 th July	<p><u>Practical Session in dispensary</u> Ian Towle, Pernille Sorensen and Louise Evans</p>	<p>10:00 – 10:30 BREAK</p>	<p><u>Practical Session in dispensary</u> Ian Towle, Pernille Sorensen and Louise Evans</p>	<p>12:00 – 14:00 LUNCH</p>	<p><u>Practical Session in dispensary</u> Ian Towle, Pernille Sorensen and Louise Evans Communication skills to educate patients</p>
Thurs 30 th July	<p><u>CPU Student presentations (what they enjoyed and learned)</u> EGR – all staff welcome Presentation and communication skills</p>		<p><u>CPU Student presentations (what they enjoyed and learned)</u> EGR – all staff welcome Presentation and communication skills</p>		
Fri 31 st July	<p>Summer School Graduation</p>		<p>Summer School Graduation</p>		