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Cover image:

Confocal micrograph of fluorescently labelled HeLa cells.
Nuclei are labelled in blue, tubulin in green and actin fibres in red.

Courtesy of:
Kevin Mackenzie
Microscopy and Histology Core Facility
Institute of Medical Sciences
University of Aberdeen
http://www.abdn.ac.uk/ims/microscopy-histology
Course Summary
Obesity is a major worldwide health challenge of our time and, clearly, is linked to overnutrition. A simple answer to the problem of obesity is for individuals just to eat less. However, in the current environment, with freely available calorie-rich foods, constant environmental cues to eat and a general reduction in physical activity there is no easy way to achieve this.

In simple terms obesity is caused by an imbalance between energy intake and energy expenditure. However, this simple equation ignores the complex range of factors that control how individuals respond to today’s energy rich environment. These include different genetic factors that influence our body weight, differences in the way we sense hunger, our capacity to store or burn energy, our response to nutrients and how circulating factors affect the function of our metabolically important tissues.

This course examines how body weight is controlled, why obesity can cause ill-health and what we can do to prevent or treat obesity and associated diseases.

Course Co-ordinator: Dr Justin Rochford email: j.rochford@abdn.ac.uk Tel: 01224 437372

Course Organisation for 2021
The COVID19 global pandemic has clearly had a huge impact on how we can deliver University teaching. You will all have experienced the rapid change to fully online learning and assessment at the end of the 2019/20 session then blended learning in 2020/21. We recognise that this was a major challenge for all of you and have been really impressed by how you all handled this. So, firstly, many thanks for your patience and hard work.

With the start of the 2021/22 academic year, we are all keen to ensure that you still receive the best possible learning experience, whatever the circumstances. During the first half-session we will continue to do this using blended learning, ie a mixture of both online and some face to face teaching, in a COVID19-safe way. Specific, detailed guidance will be given regarding exactly how this will be done. However, we cannot stress enough how important it is that you follow all the COVID19-related measures put in place. This is for your safety, the safety of your peers and the safety of staff who will deliver the course.

Teaching covering different subject areas in metabolic health that were originally delivered as traditional lectures now appear as individual “Topics”. Several of these will be made available as pre-recorded (asynchronous) talks online, with each Topic divided into between 2 and 4 shorter talks of around 10-25 minutes rather than the usual 50 minute lectures. However, some content will be delivered as live, face to face lectures with time for Q&A. The recorded asynchronous talks on each topic will be supported with live tutorial sessions, mostly face to face but with some as live synchronous sessions online.

There is also a problem solving workshop which is delivered as two timetabled, live/synchronous sessions and an assessed “OSPE” practical with two sessions: One in person where you will initially practice, and then a second when you will be assessed.
All the live lecture and tutorial sessions provide an opportunity for in-depth discussion of the topics and additional material. Importantly, they will give you the chance to ask questions and get to know the lecturers on the course. All the staff are active researchers with real expertise in the areas they will teach you about. Make sure you take maximum advantage of their cutting-edge knowledge by taking an active part in these sessions. If sessions are online, please switch on your camera.

Finally, we recognise this remains an uncertain and challenging time. More than ever, if you have any concerns about your work, the course or your physical or mental health please contact the course co-ordinator, your personal tutor or other staff as appropriate. We hope you will enjoy the course and if you have any suggestions for how it can be developed further we are always keen to hear them.

Course Aims & Learning Outcomes

Aims:
The course aims to examine why an increasing proportion of the population are becoming overweight as well as the specific physiological mechanisms behind this phenomenon. Students will gain an appreciation of the metabolic diseases associated with increased adiposity and why these occur. They will also understand how different metabolically important tissues communicate with each other, regulate metabolic health and become dysfunctional in obesity. The course will also provide an understanding of how measurements of metabolic health are made and the current and potential future therapeutic options for the treatment of obesity and related metabolic diseases.

Learning outcomes:
The student should be able to understand, discuss and critically evaluate the following areas:

1. To understand the increased prevalence of obesity and the reasons for this.
2. To appreciate the diseases associated with excessive weight gain, the functions of adipose and other metabolically important tissues and how they contribute to metabolic health.
3. To gain knowledge of pathways by which appetite is regulated in the brain and how alterations in this can cause disease. The signals from other tissues such as the gut, adipose tissue and liver that can affect feeding behaviour.
4. To develop an appreciation of how obesity can lead to conditions such as cardiovascular and diabetes and the underlying pathways driving this.
5. To understand the impact of diet and specific nutrients on metabolic health and potential dietary and pharmacological therapies for obesity and diabetes.
6. To be able to collate and integrate information about various aspects of nutrition and metabolic health and appreciate how this leads to a physiological outcome.
7. To gain an appreciation of the background and methods used in nutrition and obesity research and how novel research in this area is conducted.
8. To be able to communicate complex ideas that combine information from various sources.
9. To appreciate some of the practical and personal skills required for nutrition and obesity research or healthcare provision.

**Course Teaching Staff**

**Course Co-ordinator(s):**
Dr Justin Rochford (JJR) j.rochford@abdn.ac.uk

**Other Staff:**
Prof. Alexandra Johnstone (AMJ)
Dr Nimesh Mody (NM)
Prof. Mirela Delibegovic (MD)
Dr Dawn Thompson (DT)
Dr Brendan Gabriel (BG)
Dr Petra Louis (PL)
Dr Sergiy Sylantyev (SS)
Dr Fabien Naneix (FN)
Prof. Alison Jenkinson (AJ)

**Assessments & Examinations**

Students are expected to attend all lectures, and tutorials, and to complete all class exercises by stated deadlines. The minimum performance acceptable is attendance at least 75% of the live/synchronous sessions, and presentation of all set course work, written and oral.

Assessment is derived from **continuous assessment** (30%) and a **written examination** (70%). The continuous assessment component is based on an **online viva/oral examination** (10%), an **essay assignment** (10%) and the **OSPE practical** (Objective Structured Practical Examination, 10%).

Written Examination: 70% of the total assessment is based on a written exam. The student has to answer two questions of equal weighting selected from a list of four. The examination lasts 2 hours if “in person” but may be an online examination depending on prevailing COVID19 regulations.
Common grading scale (CGS) grade: The overall performance of the student is expressed as a grade awarded on the common spine marking scale.

_The degree examination is held in May/June examination diet._

Class Representatives
We value students’ opinions in regard to enhancing the quality of teaching and its delivery; therefore in conjunction with the Students’ Association we support the Class Representative system.

In the School of Medical Sciences, we operate a system of course representatives, who are elected from within each course. Any student registered within a course that wishes to represent a given group of students can stand for election as a class representative. You will be informed when the elections for class representative will take place.

What will it involve?
It will involve speaking to your fellow students about the course you represent. This can include any comments that they may have. You will attend a Staff-Student Liaison Committee and you should represent the views and concerns of the students within this meeting. As a representative you will also be able to contribute to the agenda. You will then feedback to the students after this meeting with any actions that are being taken.

Training
Training for class representatives will be run by the Students Association. Training will take place within each half-session. For more information about the class representative system visit [www.ausa.org.uk](http://www.ausa.org.uk) or email the VP Education & Employability [vped@abdn.ac.uk](mailto:vped@abdn.ac.uk). Class representatives are also eligible to undertake the STAR (Students Taking Active Roles) Award with further information about this co-curricular award being available at: [www.abdn.ac.uk/careers](http://www.abdn.ac.uk/careers).

Problems with Coursework
If students have difficulties with any part of the course that they cannot cope with, they should notify the course coordinator immediately. If the problem relates to the subject matter generally, our advice would be to contact the member of staff who is teaching that part of the course. Students with registered disabilities should contact the UG Medical Sciences Admin team ([medsci@abdn.ac.uk](mailto:medsci@abdn.ac.uk)) in the Medical Sciences Office (based in the Polwarth Building, Foresterhill), or Mrs Sheila Jones ([s.jones@abdn.ac.uk](mailto:s.jones@abdn.ac.uk)) in the Old Aberdeen office associated with the teaching laboratories, to ensure that the appropriate facilities have been made available. Otherwise, you are strongly encouraged to contact any of the following as you see appropriate:

- Course student representatives
- Course co-ordinator
- Convenor of the Medical Sciences Staff/Student Liaison Committee (Professor Gordon McEwan)
- Personal Tutor
All staff are based at Foresterhill. Particularly given the current circumstances, you must contact staff in advance if you wish to discuss matters with them. We strongly encourage the use of email or telephone the Medical Sciences Office. With many staff working from home, they may not be based on campus when not specifically present for teaching sessions.

If a course has been completed and students are no longer on campus (i.e. work from second semester during the summer vacation), coursework will be kept until the end of Fresher’s Week, during the new academic year. After that point, unclaimed student work will be securely destroyed.

**Course Reading List**
Recommended reading will be issued by each lecturer during their teaching sessions in the course.

**Lecture/Topic Synopsis**

**Topic 1: Introduction: Obesity and associated diseases (JJR).**
Overview of the lectures and areas to be covered.
What is obesity and what are the conditions associated with it?
What are the implications for personal health and society?

**Topic 2: Metabolic health, ageing and lifespan (MD)**
Discussion of the link between calorie restriction and reduced body weight and healthy ageing/longevity.
Description of nutrient-sensitive pathways that can affect lifespan and underlying mechanisms.

**Topic 3: Definitions and Assessment tools for obesity and metabolic health (AMJ).**
Definitions of overweight, obesity, impaired glucose tolerance, metabolic syndrome, diabetes.
Discussion of principles and assumptions of the tools and clinical cut-offs to assess obesity and metabolic health.
Application of assessment tools for health assessment in individuals (OGTT, CGMS, finger prick, body composition, waist circumference, clinical bio-markers).
Review anonymised research/clinical data examples (case study or group data).
Definition and discussion of glycaemic index and glycaemic load in dietary assessment.

**Topic 4: Genetics of obesity (JJR).**
Overview of the genetics of obesity.
Discussion of “Thrifty” vs “Drifty” genotype hypotheses.
Description of severe monogenic vs common polygenic obesity.
Experimental models involved in elucidating the genetics of body weight regulation eg Ob/Ob mice to equivalent human conditions. How genetics could affect satiety, food choice, energy expenditure. Discussing why dieting is often unsuccessful and the concept of having a body weight ‘set point’.

**Topic 5: Crosstalk between organs and tissues regulating energy balance (JJR).**
Overview of how key metabolic tissues interact. Summary of the metabolic functions of the brain, adipose tissue, skeletal muscle, liver, pancreas and the gut. Introduction to the signals and crosstalk between these different tissues.

**Topic 6: Obesity and cardiovascular disease (DT)**
How obesity can affect cardiovascular health. Factors leading to the development of atherosclerosis. Description of the mechanisms underlying plaque formation.

**Topic 7: Functions of adipose tissue in health and disease (JJR).**
What is fat/adipose tissue, what does adipose tissue do, why is increased adiposity bad for us? Details of different adipose depots and their different properties. Discussion of brown and brite fat, what makes it burn lipids and how can we induce this phenotype. Discussion of fat turnover and how we might harness this therapeutically.

**Topic 8: How to control glycemia (NM).**
The importance of insulin in glucose control. Description of the pancreas, its structure and function. Details regarding how glucose regulates insulin secretion. Discussion of molecules that modulate insulin secretion.

**Topic 9: Insulin action in peripheral tissues (NM).**
Description of key peripheral targets for insulin action. Discussion of the key processes regulated by insulin (glucose uptake and storage in muscle and adipose tissue, inhibition of gluconeogenesis in liver). Description of intracellular signalling following insulin receptor activation in target tissues.

**Topic 10: Circadian clocks in metabolic health (BG).**
What are molecular clocks? How do peripheral tissue clocks interact with physiological rhythms? How do molecular clocks regulate metabolism? What happens when molecular clocks tick ‘out of time’? Can we use exercise to ‘re-set’ dysregulated clocks?

**Topic 11: Understanding food-related behaviours (FN).**
What influences our food choices? How does exposure to different signals in development change our responses to food? When are we most vulnerable to programming influences, how does this occur and what are the mechanisms that control this?
**Topic 12: Gut microbiome and metabolic health (PL).**
Overview of the contribution of gut microbiota to metabolic health.
How the gut microbiome may be altered by diet.
Discussion of the evidence that differences in gut microbiome may contribute to obesity and metabolic disease.

**Topic 13: Exploring the role of diet and exercise to modulate obesity and metabolic health (AMJ).**
Description of weight loss improvements in adiposity and metabolic health
Role of diet composition - low fat vs low carbohydrate diets for obesity and metabolic health
Role of diet and exercise to improve obesity and metabolic health.
Role of research to influence evidence based therapeutic and preventative medicine – discussion of nutrition applications.

**Topic 14: Current treatment options for type 2 diabetes and metabolic disease (SS).**
Overview of type 2 diabetes and associated complications.
Description of current lifestyle, dietary and pharmacological therapies for diabetes, obesity and associated conditions.

**Topic 15: Control of appetite within the brain (JJR).**
What peripheral signals control hunger?
Description of the effects of leptin from fat, insulin and signals from the gut.
Description of regions of the brain controlling appetite.
Discussion of the evidence for the involvement of specific pathways and neurons in appetite regulation eg from experimental genetic modification, and human monogenic obesity.
Exploration of some key neuronal networks and molecules controlling appetite.

**Practical/Lab/Tutorial Work**

**Practical**
The practical work for SR4008 will take the form of an **Objective Structured Practical Examination (OSPE)**. This style of assessment, at multiple stations during a strict time limit, is similar to the job interviewing methods used by many employers. Hence, this is as much about learning these generic, transferable skills as about the specific tasks involved. **The OSPE will contribute towards your final course mark.**

We are currently finalising exactly how the OSPE practical will be delivered this year. Full details will be provided at the start of the course. **Laboratory coats should be worn at all times in the laboratory and specific regulations relating to COVID19-safe working must be followed** as well as University and Department safety rules. Students may find it useful to bring a calculator to the laboratories in order that the required calculations can be made.

**Problem solving workshop**
A problem solving workshop will be held by Prof Alison Jenkinson. This will involve critical discussion of a paper, data analysis and interpretation of results. The workshop will involve individual preparatory work as well as live synchronous sessions to go over the data and analysis. The workshop is not an assessment contributing to your final course mark but is a compulsory part of the course.

Viva
The oral examination will last 15 minutes and will take place online. Details of the dates and times will be confirmed but will be towards the end of the course. The object of this exercise is to give you experience in oral presentation and to assess your paper analysis skills. You will be allocated a scientific paper related to metabolic health and you will be expected to answer questions on this and discuss it in detail. This is an “open book” assessment so you will be able to look at the paper during the viva. You will also be expected to have read around the subject area prior to the examination. You will receive feedback on your performance after the session. The viva will contribute towards your final course mark.

Essay
The purpose of the essay assignment is to test your critical abilities and assist your preparation to the format of the final exams. Details of the essay question and deadlines will be given during the course. A detailed, coherent, well-illustrated, referenced and logically organized piece of work is expected. The coursework essay will contribute towards your final course mark.

University Policies
Students are asked to make themselves familiar with the information on key education policies, available here. These policies are relevant to all students and will be useful to you throughout your studies. They contain important information and address issues such as what to do if you are absent, how to raise an appeal or a complaint and how the University will calculate your degree outcome.

These University wide education policies should be read in conjunction with this programme and/or course handbook, in which School specific policies are detailed. These policies are effective immediately, for the 2020/21 academic year. Further information can be found on the University’s Infohub webpage or by visiting the Infohub.

The information included in the institutional area for 2020-21 includes the following:

- Absence
- Appeals & Complaints
- Assessment
- Avoiding Plagiarism
- Communication
- Graduate Attributes
- MyAberdeen
- Student Learning Service (SLS)
• Student Monitoring/Class Certificates
• Student Discipline
• The Co-curriculum
Academic Language & Skills support

For students whose first language is not English, the Language Centre offers support with Academic Writing and Communication Skills.

Academic Writing

- Responding to a writing task: Focusing on the question
- Organising your writing: within & between paragraphs
- Using sources to support your writing (including writing in your own words, and citing & referencing conventions)
- Using academic language
- Critical Thinking
- Proofreading & Editing

Academic Communication Skills

- Developing skills for effective communication in an academic context
- Promoting critical thinking and evaluation
- Giving opportunities to develop confidence in communicating in English
- Developing interactive competence: contributing and responding to seminar discussions
- Useful vocabulary and expressions for taking part in discussions

More information and how to book a place can be found here
## Medical Sciences Common Grading Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Point</th>
<th>Category</th>
<th>Honours Class</th>
<th>Description</th>
</tr>
</thead>
</table>
| A1    | 22          | Excellent| First         | • Outstanding ability and critical thought  
|       |             |          |               | • Evidence of extensive reading  
|       |             |          |               | • Superior understanding  
|       |             |          |               | • The best performance that can be expected from a student at this level |
| A2    | 21          |          |               |            |
| A3    | 20          |          |               |            |
| A4    | 19          |          |               |            |
| A5    | 18          |          |               |            |
| B1    | 17          | Very Good| Upper Second  | • Able to argue logically and organise answers well  
|       |             |          |               | • Shows a thorough grasp of concepts  
|       |             |          |               | • Good use of examples to illustrate points and justify arguments  
|       |             |          |               | • Evidence of reading and wide appreciation of subject |
| B2    | 16          |          | Lower Second  |            |
| B3    | 15          |          |               |            |
| C1    | 14          | Good     | Third         | • Repetition of lecture notes without evidence of further appreciation of subject  
|       |             |          |               | • Lacking illustrative examples and originality  
|       |             |          |               | • Basic level of understanding |
| C2    | 13          |          |               |            |
| C3    | 12          |          |               |            |
| D1    | 11          | Pass     |               | • Limited ability to argue logically and organise answers  
|       |             |          |               | • Failure to develop or illustrate points  
|       |             |          |               | • The minimum level of performance required for a student to be awarded a pass |
| D2    | 10          |          |               |            |
| D3    | 9           |          |               |            |
| E1    | 8           | Fail     |               | • Weak presentation  
|       |             |          |               | • Tendency to irrelevance  
|       |             |          |               | • Some attempt at an answer but seriously lacking in content and/or ability to organise thoughts |
| E2    | 7           |          | Fail          |            |
| E3    | 6           |          |               |            |
| F1    | 5           | Clear Fail|               | • Contains major errors or misconceptions  
|       |             | Not used for Honours | • Poor presentation |
| F2    | 4           |          |               |            |
| F3    | 3           |          |               |            |
| G1    | 2           | Clear Fail/ Abysmal| - | • Token or no submission |
| G2    | 1           |          |               |            |
| G3    | 0           |          |               |            |
Course Timetable SR4008: 2021-2022

- **Dates** shown indicate release dates for recorded course content on MyAberdeen, to be released in advance of the related tutorial sessions.
- **Times** are UK Time and show the timings of live sessions (either via MyAberdeen or on campus)

**Timetable Key:**
- **Green** = Live classes delivered in person in the room specified
- **Blue** = Live classes delivered via BB Collaborate online at the time shown
- **Yellow** = Assessments (OSPE practical and viva)
- **Light Grey** = Unused sessions (note: no event unless updated)
- **Dark Grey** = No scheduled classes for SR4008 on these days

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Place</th>
<th>Subject</th>
<th>Session</th>
<th>Staff</th>
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<tbody>
<tr>
<td><strong>Week 9 Lecture release: Topics 1, 2 and 3</strong></td>
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<tr>
<td>Mon 27 Sep</td>
<td>14.00-15.00</td>
<td>Spare</td>
<td>Spare session</td>
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<tr>
<td>Tue 28 Sep</td>
<td>11.00-12.00</td>
<td>Pol. 1:154 (17)</td>
<td>Course Introduction (Topic 1)</td>
<td>Tutorial</td>
<td>JJR</td>
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<tr>
<td></td>
<td>13.30-14.30</td>
<td>ZB03/ZB06</td>
<td>Practical: Physiology OSPE Practice Session</td>
<td>Practical</td>
<td>JJR</td>
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<tr>
<td>Wed 29 Sep</td>
<td>13.00-14.00</td>
<td>Pol. 1:154 (17)</td>
<td>Metabolic health, ageing and lifespan (Topic 2)</td>
<td>Tutorial</td>
<td>MD</td>
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<td>Thu 30 Sep</td>
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<td>Fri 1 Oct</td>
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<td><strong>Week 10: Lecture release: Topics 4, 5 and 6</strong></td>
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<tr>
<td>Mon 4 Oct</td>
<td>14.00-15.00</td>
<td>Collaborate</td>
<td>Definitions and Assessment tools for obesity and metabolic health (Topic 3)</td>
<td>Tutorial</td>
<td>AMJ</td>
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<tr>
<td>Tue 5 Oct</td>
<td>11.00-12.00</td>
<td>Pol. 1:154 (17)</td>
<td>Genetics of Obesity and Tissue Crosstalk (Topics 4 &amp; 5)</td>
<td>Tutorial</td>
<td>JJR</td>
</tr>
<tr>
<td>Wed 6 Oct</td>
<td>13.00-14.00</td>
<td>Pol. 1:154 (17)</td>
<td>Obesity and cardiovascular disease (Topic 6)</td>
<td>Tutorial</td>
<td>DT</td>
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<tr>
<td>Thu 7 Oct</td>
<td>17.00-18.00</td>
<td>Spare</td>
<td>Spare session</td>
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<td>Fri 8 Oct</td>
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<tr>
<td><strong>Week 11: Lecture release: Topics 7, 8 and 9</strong></td>
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<tr>
<td>Mon 11 Oct</td>
<td>14.00-15.00</td>
<td>Pol. 1:147 (16)</td>
<td>Functions of adipose tissue in health and disease (Topic 7)</td>
<td>Tutorial</td>
<td>JJR</td>
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<tr>
<td>Tue 12 Oct</td>
<td>11.00-12.00</td>
<td>Spare</td>
<td>Spare session</td>
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<td></td>
<td>13.30-14.30</td>
<td>ZB03/ZB06</td>
<td>Practical: Physiology OSPE Assessment</td>
<td>Practical</td>
<td>JJR</td>
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<td>Wed 13 Oct</td>
<td>13.00-14.00</td>
<td>Pol. 1:154 (17)</td>
<td>Glycaemic control and Insulin action (Topics 8 &amp; 9)</td>
<td>Tutorial</td>
<td>NM</td>
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<tr>
<td>Thu 14 Oct</td>
<td>10.00-11.00</td>
<td>Pol. 1:143/144 (25)</td>
<td>Circadian clocks in metabolic health (Topic 10)</td>
<td>Tutorial</td>
<td>BG</td>
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<td>Fri 15 Oct</td>
<td>09.00-13.00</td>
<td>Collaborate</td>
<td>Data Analysis Workshop</td>
<td>Workshop</td>
<td>AJ</td>
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<td><strong>Week 12: Lecture release: Topics 11 and 12</strong></td>
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<td>Mon 18 Oct</td>
<td>14.00-15.00</td>
<td>Collaborate</td>
<td>Data Analysis Workshop (Answers)</td>
<td>Workshop</td>
<td>AJ</td>
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<td>Tue 19 Oct</td>
<td>11.00-12.00</td>
<td>Pol. 1:154 (17)</td>
<td>Understanding food related behaviours (Topic 11)</td>
<td>Lecture</td>
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<td>Wed 20 Oct</td>
<td>13.00-14.00</td>
<td>Pol. 1:154 (17)</td>
<td>Gut microbiome and metabolic health (Topic 12)</td>
<td>Tutorial</td>
<td>PL</td>
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<td>Activity</td>
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<td>Topic</td>
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<td>Fri 22 Oct</td>
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**Week 13: Lecture release: Topics 13 & 15**

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<th>Activity</th>
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<th>Topic</th>
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<tr>
<td>Mon 25 Oct</td>
<td>14.00-15.00</td>
<td>Collaborate</td>
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<td>Exploring the role of diet and exercise to modulate obesity and metabolic health (Topic 13)</td>
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<td>Tue 26 Oct</td>
<td>11.00-12.00</td>
<td>Pol. 1:154 (17)</td>
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<td>Current treatment options for type 2 diabetes and metabolic disease (Topic 14)</td>
<td>Lecture SS</td>
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<td>Wed 27 Oct</td>
<td>13.00-14.00</td>
<td>Pol. 1:154 (17)</td>
<td></td>
<td>Control of appetite within the brain (Topics 15) &amp; Summary of the course</td>
<td>Tutorial JJR</td>
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<tr>
<td>Thu 28 Oct</td>
<td></td>
<td>Attend at allotted time</td>
<td>Collaborate</td>
<td>Vivas</td>
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<tr>
<td>Fri 29 Oct</td>
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**Staff**

- JJR: Dr Justin Rochford
- AMJ: Prof. Alexandra Johnstone
- NM: Dr Nimesh Mody
- MD: Prof Mirela Delibegovic
- DT: Dawn Thompson
- PL: Dr Petra Louis
- BG: Dr Brendan Gabriel
- SS: Dr Sergiy Sylantyev
- FN: Dr Fabien Naneix
- AJ: Prof. Alison Jenkinson