

Anatomy and Neuroscience for transition year students **April 29th – May 2nd 2019**

This four-day course explores the structure and function of the human body at multiple levels: individual cells, their coming together to form tissues, the organisation of tissues into organs, organs working together as parts of organ systems, and finally how those organ systems support one another to maintain the body. Normal structure and function are presented as a starting point, and then the effects of disease processes on structure and function are examined. The effects of disease are also considered at multiple levels, from cells to organ systems, and then beyond the effects on individuals to how diseases affect populations and societies. For example, we study the brain and nervous system from the molecular and cellular level right through to the behavioural level in order to understand how we learn, remember, move, and regulate our emotions. We learn about diseases such as Alzheimer's, Parkinson's, stress and depression.

Delivery of course materials includes tutorials (including sessions focusing on common medical imaging techniques such as x-ray, CT and MRI), homework assignments that serve as the starting points for in-class discussions, case study assignments (in which students research the symptoms, diagnostic tests, treatments, and typical outcomes of common disease processes), and student presentations.

Lab sessions focus on the details of structures presented in tutorials. Student dissections include multiple dissection sessions on animal tissue including the dissection of a pig heart. Histological slides will be prepared to view the microstructure of tissues. Students will gain some research lab experience in protein and DNA extraction and get to observe neuroscience researchers at work. Human cadaveric anatomy is also part of the lab, and students will view the gross anatomy of previously dissected human cadavers, and view nerve cells with our research microscopes.

The course is appropriate for students interested in delving deeper into human anatomy than their school courses typically have time for, and also for those interested in pursuing medicine or other health-care fields. The primary contact is the Technical Director of the Anatomy FLAME laboratory and teaching assistants for the course are senior medical demonstrators in Anatomy & Neuroscience. Senior Technical Officers from our Research labs will instruct you on tissue preparation and image analysis.

Our final workshop is a session on college and career options: exploring careers in medical and Neuroscience.

****Please note that students in this course carry out dissections on animal tissue and view previously dissected human cadavers. ****

If you wish to apply please complete the **application form, parental consent form and declaration forms** and return by 20/12/2018 to:

Mr Michael Cronin
Technical Director Anatomy FLAME Laboratory
Western Gateway Building
University College Cork
Western Rd, Cork

**Anatomy and Neuroscience for transition year students
APPLICATION FORM**

Name:

Date of birth:

Address:

Phone no:

E-mail:

Parent contact name and mobile no:

School Name and telephone number:

Transition Year Coordinator:

Junior Cert Science results:

Science subjects chosen for Leaving Cert:

Reasons for Applying and other relevant Achievements (200-300 words).

In particular, the applicant should state why he/she is interested in this TY placement and mention any attributes which especially qualify him/her for a place on the Anatomy for Transition Year Programme.

Hobbies/other interests:

What other Transition Year programmes/work experience have you applied for?

**Anatomy and Neuroscience for transition year students
Parental Consent Form**

Dear Parents\ Guardians

By signing this letter, you consent to the conditions as outlined and affirm that you, as the parent or legal guardian, grant permission for your child to work at University College Cork in the designated laboratory.

I grant my child _____, permission to participate in the Anatomy for Transition Year Programme listed above at University College Cork. I am aware that my child will be working with animal and human tissue.

I grant permission to the programme and its staff to treat as necessary and/or secure proper treatment for my child in case of injury. Emergency treatment will be given at Cork University Hospital. I understand that University College Cork does not carry liability, medical or property damage insurance in these cases, and that the primary responsibility in case of accident will be provided by myself and/or my own insurance. Students will need an insurance letter of indemnity from your school/college, before you start. The letter must be on insurers headed paper and must indicate the amount that the indemnity covers in both employers and public liability.

I grant/do not grant (cross out as appropriate) permission for the use of photographs and/or any video footage (that may be taken) of _____ (student's name) on the Department /University website and other associated media and social media channels. Children will possibly be named along with their School name.

The Department of Anatomy & Neuroscience also requests your permission to follow up at a future date with the participants of the Anatomy for Transition year programme, particularly in relation to the subjects/courses/careers they choose, having completed the Leaving Certificate. This is to facilitate us in determining whether our Education & Public Engagement activities are having any impact on subject, 3rd level courses and career choices.

Please contact the following in case of emergency:

Parent/Guardian 1 Name:		
<i>Home telephone:</i>	<i>Work telephone:</i>	<i>Mobile Number</i>
Parent/Guardian 2 Name:		
<i>Home telephone:</i>	<i>Work telephone:</i>	<i>Mobile Number</i>
Signature of Parent/Guardian:		Date:

Safety Statement

Anatomy FLAME Laboratory WGB3.59 - Code of Conduct

Access to the Anatomy FLAME laboratory is a privilege.

Cadavers and cadaveric specimens are to be treated with respect at all times.

It is your responsibility to be aware of, and adhere to, the following rules.

Only registered students of Anatomy and Neuroscience are allowed to enter the Anatomy FLAME laboratory.

Cameras and mobile telephones or other electronic devices are strictly forbidden within the Anatomy FLAME laboratory

Eating and drinking is not permitted in the Anatomy FLAME laboratory.

Due to the potential biological, chemical and physical hazards in the FLAME laboratory, for your own Health and Safety, and that of others, it is advised that:

- In the case of pregnancy or suspected pregnancy it is advised that you do not enter and inform a staff member confidentially.
- If you have any chronic medical condition, please seek advice from a member of the Anatomy FLAME staff.
- A clean white coat to be worn at all times, all items of loose clothing should be tucked in.
- Long hair is to be neatly tied back.
- Suitable gloves to be worn whenever working with cadaveric material and disposed of carefully in the correct bin.
- You must wear shoes / boots with an enclosed toe.
- All instruments to be returned cleaned to the correct container when you have finished with them.
- Any accident or illness during a session should be reported to the nearest member of the Anatomy FLAME staff.
- In the event of a fire alarm, please follow the instructions given to you by a member of staff.
- If you have any concerns, advice can be sought from Dr Sue Grenham, Technical Officer in the FLAME Lab, s.grenham@ucc.ie.

Department of Anatomy and Neuroscience Research Laboratory Rules

PERSONEL PROTECTIVE EQUIPMENT (PPE)

- White lab coats **MUST** be worn at all times in the lab. Open-toed shoes should not be worn.
- Wear gloves at all times, if skin-sensitive inform the technician. Remove one glove to open doors when walking between labs. Wear masks and safety glasses if handling hazardous chemicals.

HAZARDS

- Individual laboratories vary in the inherent types of hazards present. While working in our research labs you may encounter these potential hazards, for example, animal, biological, chemical, physical, or radiological hazards.
- During your time with us you will be made aware of our standard operating procedures and any potential hazards and risk assessments of the procedures you will be performing
- Before using any chemicals check for hazard symbols. ALL chemicals have some level of hazard either as a skin irritant, toxin or flammable substance. DAB in particular is a dangerous carcinogen. Check Material Safety Data Sheet while planning an experiment.
- When in doubt use the fumehood. Please label anything left in the fumehood with name, date and contents. The fumehood is not for long term storage.
- Several of our instruments have very sharp blades.
- Broken glass should be disposed of quickly and carefully, use blue dustpan and brush to clean up.

GENERAL CLEANLINESS

- Your immediate work area must be cleaned and everything returned to its rightful place after use. Please use bench coat when necessary.
- Sink Areas: Glassware must be rinsed and cleaned before being put away. Glassware is stored in back storage room of the general lab 1.33, BSI. Weigh boats and plastics are single use only. Please discard after use.

LABELLING

- Label all your experiments with your name, date and contents. Unlabelled tubes or slide boxes will be discarded without notice.
- All computer files and microscope slides should have appropriate file name to prevent loss. Please include your name or initials in the file name. Please back up all files stored on instrument or general computers.

WASTE DISPOSAL

- Please dispose of liquid and solid waste in the appropriate container. Some common chemicals have been identified and containers labelled specifically for their use in the fumehoods. Please do not mix waste chemicals.
- Biological (regular experimental waste) solid waste should be disposed of in autoclavable waste bags in yellow bins. When full replace with autoclave bags located under the sinks.
- Sharps Waste i.e. blades, syringe needles & microscope slides should be discarded in special yellow sharps containers located on lab benches.
- Regular household waste only in black bins i.e. gloves, tissue. Broken glass should be discarded in broken glass boxes located around the lab.
- If you are unsure of how to get rid of any other waste, please label it with name, date and contents. Leave in the fumehood and inform the technician.

SUPERVISION and TRAINING

- All students must attend the Lab Health & Safety induction session on Day 1 of this programme
- Minors are not permitted to work unsupervised in the lab
- If you are uncertain about any aspect of an experiment please let your supervisor know.
- You must be fully trained to work on the cryostats, PCR machines and microscopes.

COMMON SENSE

You have it, use it! When in doubt contact a technician.

Anatomy and Neuroscience for transition year students Declarations

I, _____, (student's name) have read and agree to follow all of the safety rules set forth in the training and policies of Department of Anatomy & Neuroscience. I will attend the Laboratory Safety training and ask questions in relation to anything I don't understand regarding Laboratory Safety. I realise that I must obey these rules to ensure my own safety, and that of my fellow students and instructors. I will cooperate to the fullest extent with my instructor and fellow students to maintain a safe lab environment. I will also closely follow the oral and written instructions provided by the instructor. I am aware that any violation of this safety contract that results in unsafe conduct in the laboratory or misbehaviour on my part, may result in being removed from the laboratory and/or dismissal from the programme.

Student Signature _____

Date _____

Dear Parent or Guardian,

We feel that you should be informed regarding our effort to create and maintain a safe science laboratory environment. With the cooperation of the instructors, parents, and students, a safety instruction program can eliminate, prevent, and correct possible hazards. You should be aware of the safety instructions your son/daughter will receive before engaging in any laboratory work. Please read the safety rules provided. No student will be permitted to perform laboratory activities unless this contract is signed by both the student and parent/guardian and is on file with the laboratory.

Your signature on this contract indicates that you have read this Safety Agreement, are aware of the measures taken to ensure the safety of your son/daughter in the science laboratory, and will instruct your son/ daughter to uphold his/her agreement to follow these rules and procedures in the laboratory.

Parent/Guardian Signature _____

Date _____