



# SCHOOL OF BIOCHEMISTRY & IMMUNOLOGY

Trinity  
College

## **JUNIOR SOPHISTER BIOCHEMISTRY 2019-20**

The Freshman years in College are very different to the Sophister years you are now entering; they were preparatory years whereas what you do now counts towards your degree. The ethos is also different. During the Freshman years the class size can be large and the atmosphere impersonal. Despite this, you coped and obviously did reasonably well as you have succeeded in obtaining a place in a dynamic School. However, the smaller class size now means that teaching can be more interactive – feel free to ask questions and initiate discussions in lectures. If you have not understood, assume that the lecturer has not explained things properly. Above all, try to see lecturers in supportive as well as directive roles. In this School you are allocated a tutor whom you will meet regularly and who will teach you in a small group situation; see this as advantageous for you and not an imposition although it means more work.

The mini-review, the practical assessment, as well as the essays written as part of the tutorials, will help you develop the organisation and style in writing needed to get a good degree. In your future career you will need to present clear, well-structured reports. Discuss your work and take cognisance of the comments made by the staff member – they are as important as the mark. Poor exam technique, e.g. failure to use diagrams, lack of sub-headings, *etc.*, is a feature of early undergraduate years and we must take early steps to remedy this. Many exam answers read like summaries, not developed accounts of a topic. Do not assume that the reader has a good knowledge of the subject, explain details properly. “What is the use of a book”, thought Alice, “without pictures or conversations” (Lewis Carroll). Keep this in mind when you organise your answers and essays.

### **THE EUROPEAN CREDIT TRANSFER SYSTEM (ECTS)**

The European Credit Transfer and Accumulation System (ECTS) is an academic credit system based on the estimated student workload required to achieve the objectives of a module or programme of study. It is designed to enable academic recognition for periods of study, to facilitate student mobility and credit accumulation and transfer. The ECTS is the recommended credit system for higher education in Ireland and across the European Higher Education Area. The ECTS weighting for a module is a measure of the student input or workload required for that module, based on factors such as the number of contact hours, the number and length of written or verbally presented assessment exercises, class preparation and private study time, laboratory classes, examinations, training placements, and so on as appropriate. There is no intrinsic relationship between the credit volume of a module and its level of difficulty. The European

norm for full-time study over one academic year is 60 credits. The Trinity academic year is 40 weeks from the start of Michaelmas Term to the end of the annual examination period. Each ECT credit represents 20-25 hours estimated student input, so a 10-credit module will be designed to require 200-250 hours of student input including class contact time and assessments.

ECTS credits are awarded to a student only upon successful completion of the course year. Progression from one year to the next is determined by the course regulations. Students who fail a year of their course will not obtain credit for that year even if they have passed certain component courses. Exceptions to this rule are one-year and part-year visiting students, who are awarded credit for individual modules successfully completed.

### **OVERVIEW OF JS COURSE STRUCTURE AND ASSESSMENT**

A Junior Sophister student must complete 60 European Credit Transfer System credits (ECTS credits) in the year. The 60 ECTS credits translate into 600 marks for the entire year that are distributed across the course as follows:

1. Four 10 credit modules consisting of lectures and linked practicals. Each of these modules will be assessed by continuous assessment (30% weighting) and by an exam paper in the summer (70% weighting). There will be a separate exam paper for each module. Total marks for this component = 400 marks
2. A 10 credit research skills module covering literature skills (a minireview of a topic proposed by a member of staff), presentation skills (involving a short oral presentation of the minireview topic) and analysis of quantitative data (4 quantitative problem sessions and associated exams, in semester 2). This module will be assessed by continuous assessment throughout the year.

The continuous assessment component will be linked to the literature review and an element associated with in-course exams linked to the problem sessions. Total mark for this module = 100 marks.

3. A 5 credit biochemical analysis module covering basic biochemical laboratory skills (practical sessions), and data handling lectures. This module will be entirely in course assessed. Total mark for this component = 50 marks.
4. All JS students are obliged to take a Trinity Elective option (5 credits). Total mark for this component = 50 marks. Note that not all elective options are available to JS Biochemistry students ([www.tcd.ie/trinity-electives](http://www.tcd.ie/trinity-electives)). To choose Trinity Electives, go to [my.tcd.ie](http://my.tcd.ie) and select the menu option 'My Trinity Electives' from 2nd to 6th September 2019. Academic Registry will contact you directly with further details.

### **Assessment, Progression and Repetition of a year.**

**Assessment:**

Assessment is semesterised. All modules completed in a given semester must be assessed within that semester.

**Semester 1 2018**

Teaching: weeks 3-14, Mon Sept 9<sup>th</sup> to Fri Nov 29<sup>th</sup>.

Revision week: Week 15, starting Monday 2<sup>nd</sup> of Dec

Assessment week : week 16 starting Monday 9<sup>th</sup> Dec.

**Modules to be assessed: BIU33110 Protein Structure & BIU33120 Membrane & Cell Biology)**

**Semester 2 2019**

Teaching: weeks 22-33 Mon 20<sup>th</sup> Jan to Fri 10<sup>th</sup> April

Details of Revision and Assessment week to be announced.

**Modules to be assessed: BIU33010 Nucleic Acid Module & BIU33140 Health and Disease Module**

Courts of Examiners will convene after Semester 2 and consider the results from both semesters. The results for semester 1 are only provisional.

There will be four exam papers for the year (2 hours each, 2 exams at the end of each semester) that will assess the ten-credit core modules.

You should note that in-course assessment elements of these modules includes a laboratory based practical exam, MCQs and problem exams, as well as home-work elements (laboratory assessments, minireview etc.).

Timetables for examinations are published in advance of the dates of the examinations, and available on-line. The onus lies on each student to find out the dates of examinations by consulting these timetables. No timetables or reminders will be sent to any individual student.

Students who pass the Junior Sophister examination can have the Ordinary BA degree conferred if they do not choose to proceed to Moderatorship.

The final degree award for students who pass the Senior Sophister examination will be comprised of a combination of the Junior Sophister marks (20%) and Senior Sophister marks (80%). The Junior and Senior Sophister years are integrated and the Junior Sophister mark (including the mark for Broad Curriculum) will contribute 20% to your final degree mark.

**Progression rules**

Reassessment (supplemental exams) will be available for all years (including sophister years).

Progression will be on an annual basis.

Students will be permitted to carry failed modules from from semester to semester but not from year to year.

The number of credits to pass a year will be 60.

10 ECTS may be accumulated at 'Qualified Pass' (i.e. marks between 35-39%). That is an overall mark of 40% and 40% or greater in 50 credits.

If a student has achieved both Fail and Qualified Pass grades in modules completed in semester 1 and semester 2, they will be required to present for reassessment in all failed components in all modules for which they obtained either a fail grade or Qualified Pass.

The reassessment session (supplemental exams) usually occurs at the end of August ( 1 week) to coincide with the start of Semester 1 of the next academic year.

### **Repetition of a year**

Repetition of all years permitted

Students are not permitted to repeat any academic year more than once and may not repeat more than two academic years within a programme.

Repetition of a year is on a module by- module basis only.

There will no longer be an option to repeat a year on an 'off-books' basis.

A student's academic record on their transcript will show clearly the time lost through repetition of a year.

## Biochemistry Junior Sophister Year Lecture Module Structure 2019-20: Semester 1 Provisional

<b>MODULE BIU33110</b>		<b>Lecture code</b>	<b>Topic</b>	<b>Subject</b>	<b>Lecturer</b>	<b>Exam Format Essay Qs</b>	<b>Exam Paper</b>
<b>Protein Structure</b>  <b>Coordinator: Amir Khan</b>  10 ECTS	BI3111	Protein Structure & Function	Alpha, beta, tertiary domain interactions	Ken Mok	1 of 2 Qs	Paper 1 Sem 1	
	BI3112		Active site architecture	Ken Mok			
	BI3113	Protein Activity and Regulation	Functional group chemistry	Darren Fayne	1 of 2 Qs		
	BI3114		Protein modifications	David Finlay			
	BI3115		Protein Analysis	Ken Mok			
	BI3116	Enzymology	Molecular enzymology	James Murray	1 of 2 Qs		
	BI3117		Cofactors	Andrei Budanov			
	BI3118		Enzyme regulation	Derek Nolan			
<b>MODULE BIU33120</b>  <b>Membrane &amp; Cell Biology</b>  <b>Coordinator: Derek Nolan</b>  10 ECTS	BI3121	Membrane Structure	Lipid composition & organisation	Martin Caffrey	1 of 2 Qs	Paper2 Sem 1	
	BI3122		Membrane proteins & transporters	Paul Voorheis			
	BI3123	Cytoskeleton and Vesicle Trafficking	Actin cytoskeleton	Derek Nolan	1 of 2 Qs		
	BI3124		Microtubules	Paul Voorheis			
	BI3125		Intermediate filaments	Emma Creagh			
	BI3127	Bioenergetics & Cell Signalling	Bioenergetics	Richard Porter	1 of 2 Qs		
	BI3128		Cell signalling	Aisling Dunne			

## Biochemistry Junior Sophister Year Lecture Module Structure 2019-20: Semester 2 Provisional

					Exam format		
					Essay		
					questions		
<b>MODULE BIU33010</b> <b>Nucleic Acids</b>  <b>Coordinator: Daniela Zisterer</b>  10 ECTS	BI3131	The Genome	Nucleic acid chemistry	TBA	1 of 2 Qs	Paper 1 Sem 2	
	BI3132		DNA Structure	Andrew Bowie			
	BI3133		Replication	Daneilla Zisterer			
	BI3134	Gene Expression	Transcription	Andrew Bowie	1 of 2 Qs		
	BI3135		Translation	Daniella Zisterer			
	BI3136	Molecular Mechanisms	Genetic	Molecular biology techniques	TBA		1 of 2 Qs
	BI3138			Translation: a molecular perspective	Vincent Kelly		
BI3139	DNA repair mechanisms			David Finlay			
<b>MODULE BIU33140</b> <b>Biochemistry in Health &amp; Disease</b>  <b>Coordinator: Vincent Kelly</b>  10 ECTS	<b>Lecture Code</b>	<b>Topic</b>	<b>Subject</b>	<b>Lecturer</b>		<b>Exam Paper</b>	
	BI3141	Metabolism & Immune Cell Function	Integration of metabolism	Richard Porter	2 out of 4 Q	Paper 2 Sem 2	
	BI3005		Immunology	Cliona O'Farrelly, Jean Fletcher, Aisling Dunne & others			
	BI3143	Drug Discovery, Design & Metabolism	Vincent Kelly		1 of 2 Q		

## MODULE DESCRIPTIONS

### SEMESTER 1

---

#### BIU33030 Biochemical Analysis

5 ECTS = 50 marks

---

##### 100% In-course assessed

This module will provide instruction in basic biochemistry laboratory skills and data analysis. Practicals will cover preparation of solutions, use of equipment, experimental design, safety procedures and record keeping. There will be a series of lectures on data handling and training in the use of the graphing package PRISM.

There will be a laboratory based practical exam and laboratory notebooks will be inspected. Marks will be assigned as follows:

Computational Questions on Solutions & Dilutions	2%
Written Assignment, lab skills practicals	6%
Practical Exam, lab skills practical	8%
Lab Book Inspection	4%
Data Handling MCQ	30%
Data Handling Assignment	30%
End of term MCQ related to lab skills practicals (Exam Part A)	20%

---

#### BIU33110 Protein Structure

10 ECTS = 100 marks

---

##### 70% End of year examination, 30% in course assessed

This module introduces the concept of proteins as molecular nanomachines that act as the workhorses in living cells. The relationship between protein structure and function and how drugs can be exploited to target proteins to treat diseases will also be covered. As well as lectures the module includes a set of linked practical sessions. Topics covered in this module will include functional group chemistry and reaction mechanisms, protein structure and function as well as enzyme behaviour, kinetics, reaction mechanisms and regulation. There will be associated laboratory sessions and tutorials: enzyme assay and kinetic analysis, protein purification and structure determination.

##### Assessment:

Lecture material: End of year exam Paper 1 (total time 2 h) consisting of two parts.

Part A: Essay questions. Three sections each with 2 questions; answer one from each section: (Three questions, 60 marks in total; Paper weighting 85.7%).

Part B: Answer three short questions from six. Short questions may relate to lecture material, practicals or both (10 marks. Paper weighting 14.3%).

Laboratory sessions: In course assessment: Kinetics pre-practical test (0.3%), kinetics practical assignment (4.7%), Recombinant Protein Expression Practical assignment (5%), MCQ exam based on practicals (20%).

---

**BIU33120 Membrane & Cell Biology****10 ECTS = 100 marks**

---

**70% End of year examination, 30% in course assessed**

This module covers the structure and function of biological membranes, the cytoskeleton, related signal transduction pathways and associated pathological conditions important in human health. Topics will include: the structure, function and organization of biological membranes as well as describing the bioenergetic and transport processes that occur across them. The module will also introduce the tubulin, intermediate and actin based cytoskeleton and will cover some aspects of vesicle traffic in cells. Some basic cell signalling pathways will also be covered.

As well as lectures the module includes a set of linked practical sessions and associated tutorials. Topics covered include ion transport, thin layer chromatography, use of radioisotopes in research, assay of a phosphodiesterase, cAMP binding studies and use and application of tissue culture techniques.

**Assessment:**

Lecture material: End of year exam Paper 2 (2 h total ) consisting of two parts.

Part A: Essay questions. Three sections each with 2 questions; answer one from each section: (Three questions, 60 marks in total; Paper weighting 85.7%).

Part B: Answer three short questions from six. Short questions may relate to lecture material, practicals or both (10 marks. Paper weighting 14.3%).

Laboratory sessions: In course assessment: 3 home-work assignments (cAMP = 4%, Binding Assay = 3%, Ion Transport = 3%, (home work assessment: 10 marks total) and end of module MCQ (20 marks).

**SEMESTER 2**

---

**BIU33010 Nucleic Acid Module****10 ECTS = 100 marks**

---

**70% End of year examination, 30% in course assessed**

This module covers the structure and function of nucleic acids and the molecular basis of gene regulation including DNA replication and repair, transcription and translation. As well as lectures the module includes a set of linked practical sessions which will involve two mini projects: (i) characterising a recombinant plasmid and (ii) expressing recombinant RAS.

### **Assessment:**

Lecture material: End of year exam Paper-3 (2 h total) consisting of two parts.

Part A: Essay questions. Three sections each with 2 questions; answer one from each section: (Three questions, 60 marks in total; Paper weighting 85.7%).

Part B: Answer three short questions from six. Short questions may relate to lecture material, practicals or both (10 marks. Paper weighting 14.3%).

Laboratory sessions: In course assessment: Molecular Biology 1 Pre-practical test: 2.5%, Molecular Biology I Post-practical Test: 2.5%, Molecular Biology 2: 5% (10 marks total) and end of module MCQ (20 marks). Total 30 marks

---

<b>BIU33140 Health and Disease Module</b>	<b>10 ECTS = 100 marks</b>
---	----------------------------

---

### **70% End of year examination, 30% in course assessed**

This module will cover aspects of biochemistry that are relevant in pathological, infectious and diseased states. The module will introduce: metabolism relevant to diabetes, cancer and immune cell function, components of the innate immune system and describe how they function to eliminate pathogen, the mechanism of enzyme inhibitors and propose how this can be exploited for drug therapy and the processes of drug target identification, validation and development. The module includes a set of linked practical sessions covering: (i) RAS and cancer and (ii) culture and differentiation of a medically important protozoan parasite.

### **Assessment:**

Lecture material: End of year exam Paper 4 (2 h total) consisting of two parts.

Part A: Essay questions. Three sections each with 2 questions; answer one from each section: (Three questions, 60 marks in total; Paper weighting 85.7%).

Part B: Answer three short questions from six. Short questions may relate to lecture material, practicals or both (10 marks. Paper weighting 14.3%).

Laboratory sessions: In course assessment: Cancer Metabolism Practical (VK): 5%, Trypanosomes Practical: 5% and end of 2<sup>nd</sup> term MCQ Part B (20 marks).

## **SEMESTER 1 and 2**

---

<b>BIU33020 Research Skills</b>	<b>10 ECTS = 100 marks</b>
---------------------------------	----------------------------

---

### **In course assessed (100%)**

This purpose of this module is to develop research, critical analysis and communication skills that are essential for a graduate biochemist.

Students will undertake a major written review of a subject area of biochemical relevance under the supervision of a member of the staff of the school. The topic for this review will be given to the student in the first week of the first semester with the review to be submitted at the beginning of the second semester (provisionally before 17.00 on The first friday of the teaching term). There will also be a tutorial session on the use of Endnote for referencing within the context of the minireview. In addition, each student will prepare and present a short oral summary of their review for presentation to the class (provisionally timetable for week before or after the reading week).

Critical analysis of primary data is a key skill and this addressed through a series of 4 separate quantitative problem sessions in the second semester.

Each problem subject will involve two sessions: In Session 1 the problem will be introduced and distributed to the students. Students will complete the solution to the problem as home work. In Session 2 the solution to the problem will be presented and discussed.

The final session involves an in course exam (2 h) of these problems. Problems 1 -4 will be assessed by in-course exam towards the end of the semester.

The paper will present three questions, each representative of one out of the 4 problems covered and students will be required to answer two questions.

**VERY IMPORTANT:** You will be notified of the times and locations of these exams at the beginning of semester 2. **It is your responsibility to be present for this exam. Be advised that these dates cannot be changed nor can alternative times be provided.**

### **Assessment:**

Minireview: marked by the member of staff responsible for the review topic (50 marks).

Oral presentation: assessed by a panel consisting the supervising staff member and the course co-ordinator (10 marks).

Quantitative problem/data analysis: In-course exams (40 marks in total).

---

**Trinity Elective**

**5 ECTS = 50 marks**

---

### **100% in course assessed**

Note that this module may be in either of two semesters depending on the choice.

## LECTURE TIMETABLES

Lecture timetables are published in My.TCD.ie and via the student APP. Hard copies are not provided. We will endeavour to notify you by email if there are 'last minute' changes.

## RULES REGARDING ATTENDANCE AT LECTURES

**Attendance:** The college regulations regarding attendance, as laid out in 'General regulations and information' in Part 1 of the College Calendar (<http://www.tcd.ie/about/calendar/part1/index.php>), will apply. For your information relevant extracts are reprinted here.

*'All students should enter into residence in or near Dublin and must begin attendance at the College not later than the first day of teaching term, and may not go out of residence before the last day of teaching term, unless they have previously obtained permission from the Senior Lecturer through their tutor.*

*Students must attend College during the teaching term. They must take part fully in the academic work of their class throughout the period of their course. Lecture timetables are published on College and school or department noticeboards before the beginning of Michaelmas lecture term. The onus lies on students to inform themselves of the dates, times and venues of their lectures and other forms of teaching by consulting these timetables.'*

*'In special circumstances exemption from attendance at lectures for one or more terms may be granted by the Senior Lecturer; application for such exemption must be made in advance through the tutor. Students thus exempted must perform such exercises as the Senior Lecturer may require.'*

*'Students who in any term have been unable, through illness or other unavoidable cause, to attend the prescribed lectures satisfactorily, may be granted credit for the term by the Senior Lecturer but must perform such supplementary exercises as the Senior Lecturer may require. The onus for informing the Senior Lecturer of illness rests with individual students **who should make themselves familiar with the general and more detailed school or course regulations regarding absence from lectures or examinations through illness.** In addition, issues with students may arise from time to time, which in the opinion of the Senior Lecturer affect a student's ability or suitability to participate in his or her course. If requested by the Senior Lecturer, students will be required to undergo a medical examination or assessment by a doctor or specialist nominated by the Senior Lecturer at the expense of the College for the purpose of obtaining an opinion as to the student's medical fitness to continue with his/her studies or as to his/her ability or suitability to participate in his/her course to the standards required by the College.'*

*'Students who find themselves incapacitated by illness from attending lectures (or other forms of teaching) should immediately see their medical adviser and request a medical certificate for an appropriate period. Such medical certificates should be copied to the faculty, school or department office, as appropriate, by the student's tutor.'*

**Additional requirements of the School of Biochemistry and Immunology with regard to attendance at lectures are:**

Students are required to attend and participate in all lectures, pre-practical talks, small group tutorials and problem sessions that have been organized for them. Students must sit all of the annual examination papers.

**RULES REGARDING ATTENDANCE AT PRACTICALS & SUBMISSION OF COURSE WORK**

The requirements of the School of Biochemistry and Immunology with regard to the satisfactory attendance at practicals, completion of course work, late submissions and release of marks are laid out in the introduction to the laboratory manual.

**STUDENTS WITH DISABILITIES / LONG TERM HEALTH ISSUES**

The School's Academic Liaison Officer is Ms Martha Motherway-Gildea ([motherm@tcd.ie](mailto:motherm@tcd.ie)), based in the Preparation Room, Biochemistry Teaching Laboratory.

Please notify Ms Motherway in confidence if you have any disabilities or health issues that might affect your ability to participate in lectures, complete your practicals or the associated assignments. Large print manuals can be provided to students with a visual impairment. Students are encouraged to register with the disability officer, Mr Declan Reilly - [reillyde@tcd.ie](mailto:reillyde@tcd.ie). It is particularly important to do this well before the examination period. Please note it is the student's responsibility (not the liaison officer's or your college tutor's) to register with the disability office.

**PROVISION OF COURSE MATERIAL IN BLACKBOARD**

Practical assignments, lecture resource materials, and end-of-module practical MCQ exams are supplied through the relevant module in Blackboard ([mymodule.tcd.ie](http://mymodule.tcd.ie)). CHECK that you can see all six of your BI3 modules. If a module is not visible to you send an email to [bblearn@tcd.ie](mailto:bblearn@tcd.ie) giving the module code and your college user name. If the issue is not resolved contact [denolan@tcd.ie](mailto:denolan@tcd.ie).

**SUBMISSION OF COURSE WORK** The submission process will vary, some assignments are submitted to Blackboard, some are submitted by hard copy to the School Office, the process and due date will be specified on the assignment. The penalties relating to late / non submission are given in the front of the Semester 1 Practical Manual.

**LITERATURE SKILLS/MINI-REVIEW** Students will be required to carry out a literature search and write an extended essay consisting of diagrams plus 6,000-8,000 words in the text. The ability of a student to survey and evaluate the literature and produce an organised, cogent synthesis will be taken into account. Guidelines on writing a review and a sample review are posted in Blackboard (BI3020).

Minireviews have been assigned randomly and you will be given your topic in the first week of term. In preparation for the review you could look at some review

articles in *Current Opinion in Cell Biology* or *Current Opinion in Immunology*. All reviews must be typed in 12 point font and spacing must be at least 1.5. Students are required to sign a declaration to the effect that the mini-review is entirely their work and to submit their review to Turnitin.

### **QUANTATIVE PROBLEMS**

See BI3020 under Module Descriptions

### **SMALL GROUP TUTORIALS**

Each student meets regularly with a tutor, in groups of 2-3 students. Tutors have been assigned and will stay with you through-out the year. **Please contact your tutor during the first week of the Michaelmas Semester to arrange the first meeting.** Tutorials (3-4 per term) will include exercises covering core concepts in biochemistry, training in getting the most out of research papers, and giving presentations on topics chosen by the tutor. Tutorials are useful times to discuss lecture material and practicals, the various exercises should help in your development as a scientist, and in examinations. **Attendance at these tutorials and completion of any exercises set is mandatory. Students who fail to comply will be returned as 'non-satisfactory'.**

### **JUNIOR SOPHISTER SUMMER AWARD**

Assuming that the necessary funds are available, the School will award an internship to the student in the Biochemistry programme who obtains the highest total mark in the Practical assignments at the end of the Year. The award will take the form of salary for six weeks to work in one of the research laboratories in the School. Details of how to apply will be circulated in the Hilary Semester. **Please note that students who spend any time in a research lab during the summer (whether paid or unpaid) cannot do their SS project in that lab.**

### **ELI LILLY INTERNSHIP**

Eli Lilly, a pharmaceutical company based in Cork, will sponsor a summer internship for one of our JS students. There will be a presentation at the start of term (see timetable for details) to give an overview of the company and to provide information on C.V. preparation and interview skills. Students interested in applying for the internship will submit formal applications and a short-list of candidates will be interviewed. It is anticipated that the process will be concluded by December. In the past the internship started on the Tuesday after the June bank holiday weekend and will run for approximately 12 weeks.

### **PLAGIARISM**

The College Calendar defines plagiarism, describes the levels of plagiarism and the sanctions. All students are required to complete the online tutorial 'Ready, Steady, Write'. It is located at <http://tcd-ie.libguides.com/plagiarism>.

When you submit coursework you will have signed a declaration to the effect that you have read and understood the plagiarism provisions of the College. Therefore all cases of matching text will be treated as Level 3 offences, see <http://tcd-ie.libguides.com/plagiarism/levels-and-consequences>, zero marks will be assigned to all plagiarised text and there will be no option to resubmit.

Where an assignment (or part assignment) cross matches with text in the assignment of another student both students and their tutors will be notified by email and invited to explain the match. As both students will have signed a declaration that they have read and understood the plagiarism provisions of the College all cases of matching text will be treated as Level 3 offences by both students, zero marks will be assigned to the two texts and there will be no option to resubmit. Level 3 applies even if a student was given permission to use another student's work.

## **USEFUL INFORMATION**

### **Junior Sophister Course Coordinators**

Immunology: Dr Fred Sheedy, [sheedyf@tcd.ie](mailto:sheedyf@tcd.ie)

Biochemistry: Dr Derek Nolan Room 5.06 and e-mail: [denolan@tcd.ie](mailto:denolan@tcd.ie)

Molecular Medicine: Dr James Murray, [James.Murray@tcd.ie](mailto:James.Murray@tcd.ie)

### **Erasmus/International Student Coordinator:**

Dr Andrei Budanov, [budanova@tcd.ie](mailto:budanova@tcd.ie)

### **Director of Teaching and Learning:**

Dr Aisling Dunne, e-mail: [aidunne@tcd.ie](mailto:aidunne@tcd.ie)

**School Office:** [biochem@tcd.ie](mailto:biochem@tcd.ie)

## **Locations/Venues Guideline**

**TBSI** = Trinity Biomedical Sciences Institute

**B2.50** = Seminar Room, Level -2, TBSI

**B2.72-2.74** = Combined Tutorial Room, Level -2 TBSI

**CHLLT** = Chemistry Large Lecture Theatre, located in the Chemistry Building on campus

**FRED** = Room 5.16, Level 5, TBSI

**JOLY 4** = Lecture Theatre located in the Hamilton Building on main campus

**LB11** = Lecture theatre (Lloyd Building) situated in Trinity Centre for Neuroscience, Lloyd Building,( enter building and take staircase downwards on your left).

**LTEE1 EE4-5** = Lecture Theatre 1, Basement, East End

**LTEE2** = Lecture Theatre 2, Basement, East End

**LTEE3** = Lecture Theatre 3, Basement, East End

**MacNeill 3** = lecture in the Hamilton Building

**Maxwell 5** = lecture theatre in the Hamilton Building

**MOYN LT** = Moyne Lecture theatre, located in the Moyne Building (Microbiology)

**Rm 3.22** = the main Biochemistry Teaching Lab on Level 3 in TBSI

**Room 6.07** = Seminar Room, Level 6, TBSI

**SALMON 1** = Salmon Lecture Theatre, Ground Floor, Hamilton Building, East End

**TCJ1** = will refer to locations in St. James (for Mol. Meds)

**TERCENTENARY** = L2.15 = Tercentenary Hall, Level 2, TBSI

**QUEK** = B1.15 = Stanley Quek Lecture Theatre, level -1, TBSI

## **ACADEMIC REFERENCES**

*Students applying for Summer Internships abroad require an academic reference. To assist us in processing the many requests that we receive please follow the guidelines below:*

Two weeks is an appropriate time for the processing of a reference.

It is not a good idea for three people who are going to the same institution to each get their reference from the same, one, member of staff.

**In order to facilitate your referee it would be a good idea to provide the following:**

- Title of project, Nature of project / Internship, max two lines.
- Where you are going, why are you going there, what do you hope to achieve?
- How will this internship / summer project *etc* contribute to your professional development
- Transcript from Science Course Office with JF and SF results.
- If appropriate, a copy of breakdown of JS course works marks to date: Obtainable from the office, must be stamped with office stamp and provided to staff as a hard copy.