



**UNSW**  
THE UNIVERSITY OF NEW SOUTH WALES

**Frontiers in Neuroscience**  
**GENM0202**

**Course Outline**  
**Summer session 2013**

**Monday 7 January to Wednesday 23 January**

Subject authority:

Dr Renée Morris  
[renee.morris@unsw.edu.au](mailto:renee.morris@unsw.edu.au)

## OBJECTIVES OF THE COURSE

The objectives of this course are:

- a) to introduce the student to the structure and functions of the central nervous system including the brain and spinal cord
- b) to allow the student to explore the current state of knowledge in various areas such as research into mental illness and degenerative disease, plasticity and repair of the nervous system, stem cells research and genetic engineering, etc.

## IMPORTANT NOTES:

- Students must wear enclosed shoes in the dissecting room
- No eating or drinking in the dissection and practicum rooms
- Mobile phone must be switched off during all lectures, laboratories and practicums

## COMMUNICATION

Email is the official means by which the School of Medical Sciences at UNSW will communicate with you. It is recommended that you check your email every day.

## PLAGIARISM

UNSW does not tolerate plagiarism in submitted written work. Please refer to <https://my.unsw.edu.au/student/atoz/Plagiarism.html> for more details about what constitutes plagiarism.

## ATTENDANCE

Students are expected to be regular and punctual in attendance at all classes in the course. Please note that attendance will be recorded for practical classes and students are expected to attend at least 80% of these practicums.

## APPLICATIONS FOR CONSIDERATION

Students must submit an application for consideration within three working days when sickness or circumstance beyond their control prevent them from completing a course requirement or significantly affect their performance in examination, class test, laboratory test, etc. The form can be downloaded from:

<https://my.unsw.edu.au/student/academiclife/Forms.html#SpecialConsideration>

## LECTURERS

Professor Ken Ashwell

Mr Andrew Tosolini

Dr Renée Morris

Dr Amanda Craig

Dr Penelope McNulty

Dr Carol Dobson-Jones

Dr Kharen Doyle

Dr Gila Moalem Taylor

Dr Tim Karl

A/Prof Kay Double

Prof Cindy Shannon Weickert

A/Prof Arun Krishnan

Practical classes will be under the authority of Mr. Patrick de Permentier and Mr. Andrew Tosolini as well as of Dr. Renée Morris.

## COURSE STRUCTURE AND TEACHING ACTIVITIES

This is a 6 unit of credit course and consists of:

- 20 lectures. All lectures are held in Biomed Lecture Theatre E (E 27 on Kensington campus map).
- 5 laboratory/practicum sessions, in 106/108 or 101, Wallace Wurth Building
- 2 revision tutorials on laboratory and practicum material and one general tutorial, location(s) to be announced

## ASSESSMENT PROCEDURE

There will be three quizzes each consisting of MCQs (20% of final mark each) and one short answer-type final exam (40 % of final mark).

## LECTURES, PRACTICAL CLASSES AND TUTORIAL SCHEDULE

### **Week One**

#### **Day 1- Monday 7 January**

|                |                                                                                                  |
|----------------|--------------------------------------------------------------------------------------------------|
| 9:30 to 10:00  | Welcome by Dr Renée Morris                                                                       |
| 10:00 to 11:00 | "Cellular Architecture of the Brain and Spinal Cord"<br>Lecture by Prof Ken Ashwell              |
| 11:00 to 11:30 | Morning Tea                                                                                      |
| 11:30 to 12:30 | "Introduction to the Human Brain and Spinal Cord"<br>Lecture by Mr Andrew Tosolini               |
| 12:30 to 1:30  | Lunch                                                                                            |
| 1:30 to 3:30   | "Microscopic Structure of the Spinal Cord"<br>Histology laboratory 1 by Mr Patrick de Permentier |

#### **Day 2- Tuesday 8 January**

|                |                                                                                                                  |
|----------------|------------------------------------------------------------------------------------------------------------------|
| 10:00 to 11:00 | "The Developing Nervous System"<br>Lecture by Prof Ken Ashwell                                                   |
| 11:00 to 11:30 | Morning Tea                                                                                                      |
| 11:30 to 12:30 | TBA<br>Lecture by Dr Renée Morris                                                                                |
| 12:30 to 1:30  | Lunch                                                                                                            |
| 1:30 to 3:30   | "Microscopic Structure of the Cerebrum and the Cerebellum"<br>Histology laboratory 2 by Mr Patrick de Permentier |

#### **Day 3- Wednesday 9 January**

|                |                                                                                                           |
|----------------|-----------------------------------------------------------------------------------------------------------|
| 10:00 to 11:00 | Revision Tutorial on Histology laboratory<br>Andrew Tosolini                                              |
| 11:00 to 11:30 | Morning Tea                                                                                               |
| 11:30 to 12:30 | "Functional Localisation within the Cerebral Cortex 1"<br>Lecture by Dr Renée Morris                      |
| 12:30 to 1:30  | Lunch                                                                                                     |
| 1:30 to 3:30   | "Introduction to the Human Brain and Spinal Cord"<br>Laboratory by Mr Andrew Tosolini and Dr Renée Morris |

#### **Day 4- Thursday 10 January**

**NO CLASSES – STUDY DAY**

#### **Day 5- Friday 11 January**

|                |                                                        |
|----------------|--------------------------------------------------------|
| 10:00 to 11:00 | QUIZ                                                   |
| 11:00 to 11:30 | Morning Tea/ Quiz Debrief                              |
| 11:30 to 12:30 | "Functional Localisation within the Cerebral Cortex 2" |

12:30 to 1:30 Lecture by Dr Renée Morris  
Lunch  
1:30 to 2:30 "What is Multiple Sclerosis?"  
Lecture by A/Prof Arun Krishnan  
2:30 to 3:30 "The Plastic Brain"  
Lecture by Dr Renée Morris

## **Week Two**

### **Day 6- Monday 14 January**

10:00 to 11:00 "Stroke: An Epic Tale of Death, Disability, and the Pivotal Penumbra"  
Lecture by Dr Amanda Craig  
11:00 to 11:30 Morning Tea  
11:30 to 12:30 "Functional Localisation within the Cerebral Cortex 3"  
Lecture by Dr Renée Morris  
12:30 to 1:30 Lunch  
1:30 to 3:30 Perception lab  
Mr Andrew Tosolini and Dr Renée Morris

### **Day 7- Tuesday 15 January**

10:00 to 11:00 "Gene therapy for the treatment of brain disorders"  
Lecture by Dr. Renée Morris  
11:00 to 11:30 Morning Tea  
11:30 to 12:30 "Spinal Cord Injury: Can we go Forward?"  
Lecture by Dr Renée Morris  
12:30 to 1:30 Lunch  
1:30 to 3:30 Brain Disease Lab  
Mr Andrew Tosolini and Dr Renée Morris

### **Day 8- Wednesday 16 January**

10:00 to 11:00 "Using Genes to Understand Brain: Genetics in Neuroscience"  
Lecture by TBA  
11:00 to 11:30 Morning Tea  
11:30 to 12:30 "Stem Cell-Based Therapy for Neurodegenerative Disease"  
Lecture by Dr Kharen Doyle  
12:30 to 1:30 Lunch  
1:30 to 2:30 "Neuro-immune crosstalk in multiple sclerosis and chronic pain"  
Lecture by Dr Gila Moalem Taylor  
2:30 to 3:30 Revision Tutorial on laboratories  
Mr Andrew Tosolini

### **Day 9- Thursday 17 January**

**NO CLASSES – STUDY DAY**

### **Day 10- Friday 18 January**

9:30 to 11:00 QUIZ  
11:00 to 11:30 Morning Tea/ Quiz Debrief  
11:30 to 12:30 TBA  
12:30 to 1:30 Lunch  
1:30 to 2:30 "Cannabinoid in Schizophrenia"  
Lecture by Dr. Tim Karl  
2:30 to 3:30 Title TBA  
Lecture by Dr Penelope McNulty

## **Week Three**

### **Day 10- Monday 21 January**

10:00 to 11:00 "Neurodegenerative diseases"  
Lecture by A/Prof Kay Double  
11:00 to 11:30 Morning Tea  
11:30 to 12:30 TBA  
Lecture by Prof. Cindy Shannon- Weickert  
12:30 to 2:00 Lunch  
2:00 to 3:00 Quiz

### **Day 11- Tuesday 22 January**

**NO CLASSES – STUDY DAY**

### **Day 12 – Wednesday 23 January**

10:00 to 12:00 Final Exam