

Skin Biology, Stem Cells and Regenerative Medicine

Module Code:	BIS7013-B
Academic Year:	2018-19
Credit Rating:	20
School:	School of Chemistry and Biosciences
Subject Area:	Biomedical Science
FHEQ Level:	FHEQ Level 7 (Masters)

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	25
Tutorials	4
Laboratory	3
Directed Study	166
Examinations DO NOT USE	2

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Semester 1 (Sep - Jan)

Module Aims

Aims: To develop a comprehensive understanding and detailed knowledge of:

1. Skin development, skin structure and function in health and disease
2. Stem cells in development, tissue homeostasis and ageing
3. Aims, principles, tools and therapeutic potential of Regenerative Medicine
- 4 Major experimental models used in Stem Cell biology and Regenerative Medicine

Outline Syllabus

Skin structure and function in health and disease; stem cells in development, tissue homeostasis and ageing; overview of cell signalling, major mechanisms of transcription control of gene expression programmes including epigenetic regulation; molecular and cellular mechanisms of skin morphogenesis and regeneration; molecular and cellular mechanisms of skin ageing and diseases; aim, principles, tools and potential of regenerative medicine; major experimental models used in stem cell biology and regenerative medicine.

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1 Systematically understand and be critically aware of current knowledge of skin structure & function in health & disease including skin development, homeostasis & regeneration.
- 10 Demonstrate oral and written scientific communication skills.
- 11 Review the aims, principles, major tools & therapeutic potential of Regenerative Medicine.
- 2 Discuss skin development, homeostasis and regeneration.
- 3 Discuss the principles of stem cell biology in relation to development, tissue homeostasis and regeneration.
- 4 Review how molecular & cellular defects lead to skin & hair follicle abnormalities and diseases.
- 5 Critically evaluate the major experimental models used in Stem Cell Biology and Regenerative Medicine.
- 6 Observe and interpret the microscopy data describing skin structure in health and disease.
- 7 Critically appraise the major topics involving skin structure and functions in health and disease, skin development and pathobiology, stem cells and regenerative medicine.
- 8 Critically evaluate the current state and future prospects of Regenerative Medicine.
- 9 Demonstrate personal responsibility for self-directed learning and time management.

Learning, Teaching and Assessment Strategy

The curriculum to develop the knowledge and understanding required in this module is delivered in lectures. Development of knowledge and understanding and other skills, such as critical analysis of the information, problem solving and scientific writing, is also achieved using practical sessions and workshops. Significant time will be allocated for directed studies. The workshop exercises and practical classes will require students to work under pressure, meet deadlines and develop advanced communication skills.

The comprehensive knowledge and understanding of the subject developed by the student

will be assessed by formal close book exam involving writing essays on two chosen topics from five (70%) and writing essay under exam conditions on a topic provided two weeks in advance to develop essay writing skills and examination technique (30%). The learning will be also supported by two assignments assessed formatively: one essay written on a provided topic during directed study and a written report on the practical class about skin structure analysis in health and disease.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Summative	Examination - closed book	One 2-hour closed book exam comprising two from a choice of five essay topics	0 hours	70%	Yes
Summative	Coursework	A 45 minute essay written in class on the topic provided two weeks in advance	0 hours	30%	No

Legacy Code (if applicable)

BM-7006D

Reading List

To view Reading List, please go to [rebus:list](#).