

MS946-15 Introduction to the Principles and Practice of Genetic and Genomic Counselling

26/27

Department

Warwick Medical School

Level

Taught Postgraduate Level

Module leader

Chelsea Wood

Credit value

15

Module duration

10 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

This module provides an in-depth exploration of the principles and practice of genetic and genomic counselling within reproductive science. It examines the professional role of genetic counselling in the UK, the communication of risk, and the use of family history to assess inheritance patterns.

Module aims

The main aim of the module is for students to develop advanced skills in explaining complex genetic information, evaluating counselling approaches, and addressing the psychological and social challenges faced by individuals and families affected by genetic conditions. The module also aims to provide a comprehensive understanding of the ethical, legal, and societal implications of genomic research and applications. Through critical analysis of patient-centred strategies, the module also aims to prepare students to support informed decision-making and achieve positive patient outcomes in genomic healthcare.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

This module explores the professional, ethical, and clinical role of genetic counselling in UK healthcare. It also examines the ethical issues and legal frameworks related to genomics. Students will learn to construct and interpret pedigrees, assess inheritance patterns, and calculate genetic risk. Key principles of probability, risk, and uncertainty will be applied to risk communication. Effective counselling strategies will be evaluated to support informed decision-making. Psychological, social, and ethical challenges faced by individuals and families will be critically analysed.

Learning outcomes

By the end of the module, students should be able to:

- Critically evaluate the role, ethics, and impact of genetic counselling within UK genetic services.
- Integrate inheritance patterns and probability to analyse pedigrees and generate accurate risk figures.
- Apply principles of probability, risk, and uncertainty to effectively communicate genetic risk.
- Assess evidence-based strategies for explaining genetic concepts and supporting ethical decision-making.
- Critically analyse the psychological and social challenges of genetic conditions.

Indicative reading list

[Reading lists can be found in Talis](#)

Subject specific skills

1. Constructing and interpreting family trees, applying inheritance patterns, and calculating genetic risk figures.
2. Applying principles of probability, risk, and uncertainty to effectively convey complex genetic information.
3. Implementing evidence-based strategies to support individuals and families in understanding genetic information and making informed decisions.
4. Assessing the psychological and social challenges associated with genetic conditions and their impact on patients and families.

Transferable skills

1. Critical Thinking – Students learn to analyse complex situations and making informed decisions based on evidence.

2. Communication – Students learn to effectively convey information to diverse audiences, including patients, families, and professionals.
 3. Empathy and Emotional Intelligence – Students demonstrate sensitivity and understanding in challenging or emotional situations.
 4. Ethical Decision Making – On the module, students learn to apply ethical principles to practice and ensuring responsible decision making.
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Study

Study time

Type	Required
Seminars	16 sessions of 1 hour (11%)
Online learning (scheduled sessions)	4 sessions of 1 hour (3%)
Private study	70 hours (47%)
Assessment	60 hours (40%)
Total	150 hours

Private study description

Structured online activities via VLE (Moodle) including podcasts and other online resources, discussion forums, case reports – 70 hours Self-directed learning – 30 hours each in preparation for each assessment.

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group A

Assessment component	Weighting	Study time	Eligible for self-certification
Case Report	60%	30 hours	Yes (extension)

Weighting

Study time

Eligible for self-certification

The 1500-word case report assessment requires students to critically analyse a real case involving genetic counselling. Students will apply their knowledge of genetic risk assessment, ethical considerations, and counselling strategies to evaluate the case, focusing on key issues such as inheritance patterns, risk communication, and patient support.

Reassessment component is the same

Assessment component

Presentation	40%	30 hours	Yes (extension)
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10 minute oral presentation with 5 minutes question and answers on a genetic counselling case or topic. Students will critically discuss key concepts such as risk assessment, inheritance patterns, and ethical challenges in genetic counselling. The presentation should focus on effectively communicating complex genetic information to a non-specialist audience, demonstrating clear reasoning and the application of counselling strategies.

Reassessment component is the same

Feedback on assessment

Assessments will be marked using clear grading criteria, ensuring transparency and consistency in feedback. Students will receive a breakdown of their performance across different assessment components. Detailed, structured comments will be provided on submitted assessments, highlighting strengths, areas for improvement, and suggestions for further development.

Availability

There is currently no information about the courses for which this module is core or optional.