



# MEDGEN



## Developing Medical Genetics Education Through Curriculum Reforms and Establishment of Postgraduate Training Programs

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### **Student Learning outcomes for MSc Program in Genetic Counseling**

Rapid development in molecular biology and medicine emphasizes the importance of ensuring that genetic counselors are familiar with the principles of human genetics and their applications in preventive medicine. There is a need to establish a modern curriculum that will take into account expanding and changing roles of genetic counselors in genomic medicine.

**We propose to aim at achieving the following learning  
outcomes:**

#### **A. Knowledge in genetics**

- Ascertaining sufficient medical, family and personal information from the individual and the family with genetic condition to calculate genetic risk.
- Understanding patterns of Mendelian and non-Mendelian inheritance and the underlying mechanisms by which genetic disease may occur.
- Providing clinical information and recommendations to the individuals and their families.
- Understanding laboratory methods used for genetic disease diagnosis and being aware of limitations of molecular testing.
- Providing information on reproductive options.

## **B. Social aspects**

- Ascertaining practical and psychological needs of the individual and family.
- Being able to identify relevant organizations and patient organizations and communicate this information to the families.

## **C. Communication skills**

- Providing information about the genetic disorder appropriate to the families according to their religious and cultural views.
- Enabling individuals to make informed choices about the implications of genetic diagnosis on the family members.
- Consulting other health professionals about specific genetic diseases in order to discuss with the family screening options, management options and prognosis.

## **D. Ethical principles and documentation**

- Providing information on the risks and benefits of a genetic test prior to obtaining consent for the test.
- Promoting dissemination of information to family members when possible and recommended.

- Explaining how the results of genetic testing genetics might impact on career and insurance related-decisions.
- Maintaining confidentiality and security of genetic information.

## **F. Education**

- Distributing knowledge in medical genetics.
- Raising awareness on available services related to healthcare in genetic diseases.

## **Summary**

This summary provides recommended learning outcomes in medical genetics for the MSc program in Genetic Counselling. It is aimed at assisting in defining the structure and content for this program.

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This project has been funded with support from the European Commission:  
Grant Agreement 544331-TEMPUS-1-2013-1-AM-TEMPUS-JPCR

This publication reflects only the author's view and the Agency and the Commission are not responsible for any use that may be made of the information it contains.