

## Liverpool John Moores University

Title: VIRAL INFECTIONS OF THE CENTRAL NERVOUS SYSTEM  
Status: Definitive  
Code: **7005NMBMOL** (101580)  
Version Start Date: 01-08-2011

Owning School/Faculty: Pharmacy & Biomolecular Sciences  
Teaching School/Faculty: Pharmacy & Biomolecular Sciences

Team	Leader
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**Academic Level:** FHEQ7      **Credit Value:** 12.00      **Total Delivered Hours:** 7.00  
**Total Learning Hours:** 120      **Private Study:** 113

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Tutorial	4.000

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Theory paper. Guidance on continuous assessments.	30.0	3.00
Essay	AS2	undefined	70.0	

### Aims

*To provide students with an understanding of the importance of different viruses in the pathogenesis of infections of the central nervous system (CNS). Particular emphasis will be given to laboratory techniques for diagnosis and also methods for prevention and treatment. A detailed discussion of prion diseases will also be included in this module.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 demonstrate a detailed knowledge of viruses involved in the pathogenesis of acute and chronic infections of the nervous system
- 2 appreciate the importance of appropriate techniques used in the laboratory diagnosis of acute viral infections
- 3 review the importance of viruses involved in causing CNS disease of prolonged incubation periods or long duration (i.e. slow viruses)
- 4 understand the ways in which virus diseases of the nervous system can be prevented and treated together with their limitations
- 5 evaluate the current level of knowledge associated with prion disease and its importance in animal disorders of the nervous system

## Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

EXAM	1	2	3	4	5
CW	1	2	3	4	5

## Outline Syllabus

*Introduction to the anatomy of the CNS*

*Pathology of the CNS*

*Clinical features of CNS disease*

*Syndromes associated with CNS disease (meningitis, acute encephalitis, meningo-encephalitis, post-viral encephalitis, peripheral neuropathies)*

*Viruses most commonly involved in CNS infections (including Rabies)*

*Viruses less commonly involved in CNS disease. and diseases with multiple causes (e.g. Guillain-Barre syndrome)*

*Diagnosis of CNS infection (Serology and the significance of CSF:serum antibody levels, culture, limitations of conventional diagnostic methods, and novel methods)*

*Treatment and prevention of CNS infections (Immunoglobulins, vaccines e.g. MMR and antivirals)*

*Safety aspects of dealing with CNS infections*

*Slow viruses and prions:-*

*The involvement of conventional viruses in "slow" CNS disease (e.g. measles, polyomas, retroviruses) and -their significance in the immunocompromised host*

*Unconventional agents in man and animals (Prions e.g. CJD, Kuru, Scrapie, BSE)*

*Pathology and clinical features of the "slow virus"/prion infections*

*Modes of transmission*

*Problems of diagnosis*

*Suggested structure and nature of prions, transmissibility and the species barrier*

*Prevention of disease*

*Safety aspects and restrictions*

## Learning Activities

Primary mode by distance learning with tutorial support and assignment feedback

## References

<b>Course Material</b>	Book
<b>Author</b>	Griffen DE
<b>Publishing Year</b>	2003
<b>Title</b>	Immune responses to RNA-virus infection of the CNS
<b>Subtitle</b>	Nature Reviews Immunology Vol 3 493-501
<b>Edition</b>	
<b>Publisher</b>	
<b>ISBN</b>	

<b>Course Material</b>	Book
<b>Author</b>	Studahl M
<b>Publishing Year</b>	2003
<b>Title</b>	Influenza virus and CNS manifestations
<b>Subtitle</b>	Journal of Clinical Virology 28; 225-232
<b>Edition</b>	
<b>Publisher</b>	
<b>ISBN</b>	

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## Notes