

Curriculum Content Report – Mitochondrial Disease
 MS B5i, Mitochondria, Mitochondrial Disease, Myopathy
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Year 1	
Course	Content
Cell & Tissue Biology	Mitochondria covered in organelles – structure and function
Cellular & Molecular Medicine	<ul style="list-style-type: none"> •Role of mitochondria in cellular respiration and energy production •Genetics of mitochondrial diseases- concepts of matrilineal inheritance and heteroplasmy, example disease Leber hereditary optic neuropathy
Genetics	Mitochondrial inheritance` Example diseases -MELAS- Mitochondrial Encephalopathy with Lactic Acidosis and Stroke Like Episodes -MERRF- Myoclonic Epilepsy with Ragged Red Fibers -CPEO- Chronic Progressive External Ophthalmoplegia -Leigh Syndrome
Year 2	
Pathology	<ul style="list-style-type: none"> •Mitochondrial myopathies •Mitochondrial encephalomyelopathies •Review of mitochondrial disease genetics •Examples <ul style="list-style-type: none"> -Subacute necrotizing encephalopathy, Leigh syndrome-discussed in more detail as an example -LHON (Leber hereditary optic neuropathy) -NARP: neuropathy, ataxia, retinitis pigmentosa, ptosis -Mitochondrial myopathies <ul style="list-style-type: none"> -Kearns-Sayre syndrome -Myoclonic epilepsy with ragged red fibers -Mitochondrial encephalopathy, lactic acidosis, and stroke-like episodes