Course Title/Code: Advances in Vascular Biology and Therapeutics (MMPH6172)

Department: Pharmacology & Pharmacy

Objective: To introduce how different regulatory systems coordinate together the maintenance of vascular tone and vascular integrity, and the rationale behind the current and prospective drug treatments for vascular diseases and vascular complications of diabetes, hypertension and dyslipidemia.

Content: Topics include:
- local and neuronal control of the vascular system
- role of endothelium and smooth muscle in the regulation of vascular tone
- organization and function of the pulmonary circulation
- current therapies for hypertension, thrombosis and atherosclerosis
- current and emerging paradigms in the pathology and management of vascular complications of diabetes and dyslipidemia.

Learning Outcomes: On completion of the module, the students are expected to:
- discuss the importance of the regulation of the vascular system and integrate the different regulatory systems for the maintenance of vascular functions and integrity
- describe the effects of cardiac output, lung volume and hypoxia on pulmonary vascular resistance
- explain the underlying mechanisms leading to various pathologies of the vascular system
- critically appraise experimental methodologies and findings in vascular biology research
- identify the rationale of current and prospective pharmacological treatments for vascular diseases and vascular complications of diabetes, hypertension and dyslipidemia.

Prerequisite: Students with biomedical background preferred

Duration: 1 semester; 2 hours/week; 24 contact hours

Continuous assessment/examination ratio: 30% / 70%
Examination method/ duration: Written examination / 2 hours

Remarks: Also offered to RPg from other Faculties at HKU