**CBMM 5350Q**- Molecular Medicine of the Heart.

This course is open to both Masters and PhD students.

**Number of credits:** 3

**Class dates for fall 2015:** September 8th, 2015- December 15th, 2015

**Day**: Tuesday

**Time**: 9:30 AM- 12:30 PM

**Instructor:** Dr. Gopal Babu ([babugo@njms.rutgers.edu](mailto:babugo@njms.rutgers.edu)), 973-972-5376

**Course description:** The course will address the mechanisms of heart function and dysfunction in an integrated approach including morphology, physiology, biochemistry, molecular biology, pharmacology and the basics of cardiovascular disease.

The course will include invited guest speakers from other medical schools who are prominent clinician-scientists and who practice clinical cardiology and perform basic science research.

The following topics will be covered: Structure of the heart, Physiology and electrophysiology, Role of calcium in muscle contraction, Metabolism, Signaling mechanisms, Gene and protein response to stress in the normal heart, Hypertrophic response: the athlete's heart versus the hypertensive heart, Maladaptation to disease: ischemic injury and infarction, End-stage of disease: heart failure, treatment and Clinical correlate to hypertrophy and heart failure.

Course evaluation will be based on quizzes and exams related to the different topics.

**Suggested reading (s):** Course materials will be emailed to the students in advance. For additional readings: Physiology of the heart (fifth edition) by Arnold M. Katz