Classical Electrodynamics II PHY 614

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Time Table: DOAA

Course Syllabus: Refer to DOAA Website Courses page. The syllabus is a tentative list of topics. Choice of topics and extent of coverage is left for the Instructor.

Tentative Evaluation: (Surprise) Quiz 15 + 15=30 , Mid Sem 20 MCQ + 40 =60, End Sem 30 MCQ + 60=90, Attendance 20, Total 200. *Quiz, MS, ES Make Up Exams as per Senate Rules.* Note that this is tentative and is subject to modification once the course begins.

Texts and References: Goldstein (Special Relativity Chapter) , Landau Lifshitz (Classical Theory of Fields) and J D Jackson (Classical Electrodynamics).

Tips : Attend all lectures and tutorials and solve the problem sheets. *Attendance will be strictly enforced and extended absentees without a valid reason will be deregistered from the course as per Senate guidelines.* Please note that the course is an elective and hence of your choice to register. Course and evaluation will be geared towards the Lectures. All Quiz, Exams are Open Notes.

Consultation or Discussion: Please make appointment by email to sengupta@iitk.ac.in For emergency only, call my mobile number given on my website **http://home.iitk.ac.in/ sengupta**

Fail Grade: Lack of regular attendance and less than minimum required marks in the *relative grading scheme.* Note that the course is conceptually and technically hard. It will need sincerity effort and hard work.

Lecture Plan Total 40 Lectures. No Tutorials for this course

1. STR, 4 vectors and tensors: 3 L
2. Relativistic Kinematics and Dynamics, Lagrangian: 6 L
3. Charged Particle in EM Fields: 3 L
4. Maxwell Equations and Covariant ED: 6 L
5. Classical Field Theory: 6 L
6. LW Potentials : 3 L
7. Radiation Theory: 9 L
8. Dispersion and Scattering: 3 L