

“Accelerator Physics” Course Schedule, USPAS, San Diego, CA January 13-24, 2020

Mon 13 January 0900-1200 Lecture 1 **‘Relativity, EM Forces - Historical Introduction’**
Mon 13 January 1330-1630 Lecture 2 **‘Weak focusing and Transverse Stability’**
Mon 13 January 1900-2300 Homework and tutoring
Tue 14 January 0900-1200 Lecture 3 **‘Linear Optics’**
Tue 14 January 1330-1630 Lecture 4 **‘Phase Stability, Synchrotron Motion’**
Tue 14 January 1900-2300 Homework and tutoring
Wed 15 January 0900-1200 Lecture 5 **‘Magnetic Multipoles, Magnet Design’**
Wed 15 January 1330-1630 Lecture 6 **‘Synchrotron Radiation’**
Wed 15 January 1900-2300 Homework and tutoring
Thu 16 January 0900-1200 Lecture 7 **‘Coupled Betatron Motion’**
Thu 16 January 1330-1630 Lecture 8 **‘Radiation Distributions’**
Thu 16 January 1900-2300 Homework and tutoring
Fri 17 January 0900-1200 Lecture 9 **‘X-ray Sources/FELs’**
Fri 17 January 1330-1630 **Recitations & Mid Term Exam**
Mon 20 January 0900-1200 Lecture 10 **‘Particle Acceleration’**
Mon 20 January 1330-1630 Lecture 11 **‘Beam Dynamics of Energy Recovering Linacs’**
Mon 20 January 1900-2300 Homework and tutoring
Tue 21 January 0900-1200 Lecture 12 **‘Radiation Damping’**
Tue 21 January 1330-1630 Lecture 13 **‘Fundamentals of RF Cavities’**
Tue 21 January 1900-2300 Homework and tutoring
Wed 22 January 0900-1200 Lecture 14 **‘Low Emittance Lattices’**
Wed 22 January 1330-1630 Lecture 15 **‘Statistical Effects - I’**
Wed 22 January 1900-2300 Homework and tutoring
Thu 23 January 0900-1200 Lecture 16 **‘Statistical Effects - II’**
Thu 23 January 1330-1630 Lecture 17 **‘Stochastic Cooling’**
Thu 23 January 1900-2200 Homework and tutoring
Fri 24 January 0900-1300 **Final Exam**

Totals:

Lectures (17 lectures, 51 hours)

Exams (7 hours)

Homework and tutoring (32 hours)

Lecturers: **Alex Bogacz (7)**, **Geoff Krafft (7)**

Subashini De Silva (2) and **Bhawin Dhital (1)**