

VACUUM ELECTRON DEVICES (MICROWAVE VACUUM TUBES)

Summer School Course Schedule

11-Aug-25 Monday	12-Aug-25 Tuesday	13-Aug-25 Wednesday	14-Aug-25 Thursday	15-Aug-25 Friday	16-Aug-25 Saturday
9:00 – 9:30 Registration	09:00 - 10:00 Electron Physics of Beams (Kashif Yaqub)	09:00 - 10:00 Design Studies of Electron Guns 1 (Kashif Yaqub)	09:00 - 10:00 Magnetrons 1 (Muhammad Ayub)	09:00 - 10:00 Traveling Wave Tubes (TWTs) Fundamentals (Şemsettin Turkoz)	09:00 - 10:00 Klytrons 1 (Ali Alaçakır)
9:30 – 9:45 Introduction and Opening (Orkun Hasekioglu)	10:00 – 10:15 Break	10:00 – 10:15 Break	10:00 – 10:15 Break	10:00 – 10:15 Break	10:00 – 10:15 Break
9:45 – 10:45 Overview of microwave tube applications I (Ahmed Erfgani)	10:15 - 11:15 Beam-Dynamics in Microwave Electronic Devices (Kashif Yaqub)	10:30 - 11:30 Design Studies of Electron Guns 2 (Kashif Yaqub)	10:15 - 11:15 Magnetrons 2 (Muhammad Ayub)	10:15- 11:15 TWT Slow-Wave Structures (SWS) (helix TWTs) (Agah Oktay Ertay)	10:15 – 11:15 Klytrons 2 (Ali Alaçakır)
10:45 – 11:00 Break	11:15 – 11:30 Break	11:15 – 11:30 Break	11:15 – 11:30 Break	11:15 – 11:30 Break	11:15 – 11:30 Break
11:00 – 12:00 Overview of microwave tube applications II (Ahmed Erfgani)	11:30 – 12:30 RF Principles and Components-2 (Muhammad Ayub)	11:30 – 12:30 Design Studies of Electron Guns 3 (Kashif Yaqub)	11:30 – 12:30 Relativistic Magnetron (Ahmed Erfgani)	11:30 – 12:30 Analysis, Design and Modeling of Helix SWS Structures - 1 (Agah Oktay Ertay)	11:30 – 12:30 Klytrons 3 (Ali Alaçakır)
12:00- 13:30 Lunch	12:30 - 14:00 Lunch	12:30 - 14:00 Lunch	12:30 - 14:00 Lunch	12:30 - 14:00 Lunch	12:30 - 14:00 Lunch
13:30 - 14:30 RF Principles and Components-1 (Muhammad Ayub)	14:00 -15:00 Beam Dynamics cont., CST simulation beam dynamics DC and pulsed (Kashif Yaqub)	14:00 – 15:00 Explosive Electron Emission (Ahmed Erfgani)	14:00 – 15:00 Magnetrons 3 (Muhammad Ayub)	14:00 – 15:00 Analysis, Design and Modeling of Helix SWS Structures - 2 (Agah Oktay Ertay)	14:00 – 15:00 Virtual Cathode Oscillator (Vircator) (Selahattin Nesil)
14:30 – 14:50 Break	15:00 – 15:20 Break	15:00 – 15:20 Break	15:00 – 15:20 Break	15:00 – 15:20 Break	15:15– 16:15 Exam
15:00 – 17:00 Pulsed Power systems for high power microwaves (HPM sources.) (Artem Kuskov (UNM) - online session)	15:20– 16:30 Special Topic: Manufacturing of Cavities and Components -1 (Ali Alaçakır)	15:20 – 16:30 Practical Aspects of Electron gun Manufacturing and Operation (Kashif Yaqub)	15:20 – 16:30 Backward wave oscillator-1 (BWO) basic principles of operation (Ahmad Erfgani)	15:20 – 16:30 Relativistic TWT (Ahmad Erfgani)	16:15 – 16:45 Break & Grading of Exams
	16:30 – 16:45 Break	16:30 – 16:45 Break	16:30 – 16:45 Break	16:30 – 16:45 Break	
	16:45 – 17:30 Special Topic: Manufacturing of Cavities and Components -1 (Ali Alaçakır)	16:45 – 17:30 Special Topic: Traveling wave interaction (Agah Oktay Ertay)	16:45 – 17:30 Backward wave oscillator-2 (BWO) basic principles of operation (Ahmad Erfgani)	16:45 – 17:45 CST Particle simulation (Helix slow wave structure) (Agah Oktay Ertay)	16:45 – 17:00 Closing Ceremony : Closing Remarks & Certificates Distribution (Orkun Hasekioğlu)