National Central University
Department of Atmospheric Sciences
Syllabus of Radar Meteorology

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Extension phone number: 65521 or 65505
Lecture time: Monday 10:00~11:50, Friday 9:00~9:50
Contents：
(1) Propagation path of the EM wave in the atmosphere
(2) Basic principles of pulse Doppler weather radar
(3) Radar equation
(4) Weather radar equation
(5) Radar scanning strategy and recovery of the wind fields: from single to multiple Doppler radars.
(6) Introduction of dual-polarimetric radar
(7) Rain drop size distribution and Quantitative Precipitation Estimation (QPE): from rain gauge to dual-polarimetric radar
(8) Radar data retrieval, assimilation, and Quantitative Precipitation Forecast (QPF)
(9) Field trip to operational radar stations
(Depending on the COVID-19 situation)

References：
1. Doppler Radar and Weather Observations
by R.J. Doviak and D.S. Zrnic
2. Polarimetric Doppler Weather Radar
by V. N. Bringi and V. Chandrasekar
3. Radar for Metorologists by R. E. Rinehart
4. Journal papers

Final score: Homework (50%) + tests (50%)