# Course Content

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| Course Title (English) | Theory of Microwave Circuits and Devices |
| Course Title (Chinese) | 微波電路 |
| Credit | 3 |
| Instructor | Prof. Tah-Hsiung Chu 瞿大雄 教授 |
| Outline | Contents:<br>Ch.2 Transmission Line Theory, 2.1, 2.3-2.7<br>Ch.3 Transmission Lines and Waveguides, 3.1, 3.5, 3.7, 3.8, 3.11<br>Ch.4 Microwave Network Analysis, 4.1-4.6<br>Ch.5 Impedance Matching and Tuning, 5.1-5.9<br>Ch.6 Microwave Resonators, 6.1, 6.2, 6.5, 6.6<br>Ch.7 Power Dividers and Directional Couplers, 7.1-7.3, 7.5-7.9<br>Ch.8 Microwave Filters, 8.3-8.8<br>Ch.9 Theory and Design of Ferrimagnetic Components, 9.6<br>Ch.10 Noise and Active RF Components, 10.1-10.5<br>Ch.11 Microwave Amplifier Design, 11.1-11.5<br>Ch.12 Oscillators and Mixers, 12.1-12.6<br>Ch.13 Introduction to Microwave Systems, 13.1-13.6<br>Textbook: David M. Pozar, *Microwave Engineering*, 4th ed., John Wiely & Sons, 2011. |
| Goal | Illustrate the basic principles and design formula of passive and active microwave linear circuits using transmission line theory in terms of $V^+(z)$, $V^-(z)$, $I^+(z)$, $I^-(z)$ representation and microwave network analysis in terms of S-parameters. |

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| English Teaching | ☐ YES | ■ NO |
| Teaching Material | ■ English | ☐ Chinese |