碩士學分班第 34 期(111 學年度第一學期)課程大綱表

上課時間/地點	課程名稱	授課教師	課程大綱	學分數
111/9/5~112/1/9 每週一 **18:20~21:00**	固態熱力學	林佳鋒老師	01. The First Law of Thermodynamics 02. The Second Law of Thermodynamics 03. Statistical Thermodynamics 04. Auxiliary Function 05. The Third Law of Thermodynamics 06. Heat Capacity, Enthalpy, Entropy 07. Heat Capacity, Enthalpy, Entropy 08. Some Relations Between Thermodynamic Quantities 09. Some Relations Between Thermodynamic Quantities 10. Midterm Exam 11. Free Energy of Heterogeneous Reactions 12. Free Energy of Heterogeneous Reactions 13. Solutions 14. The Quasichemical Approach to Solutions 15. Equilibrium Between Phases of Variable Composition 16. Equilibrium Between Phases of Variable Composition 17. Free Energy of Binary Systems	**3** 學分 **(54** 小時**)**
111/9/5~112/1/9 每週二 **18:20~21:00**	高等物理冶金	宋振銘老師	01. To understand the structure of materials and dislocations 02. To understand the plastic deformation of materials 03. To understand grain boundaries and vacancies in materials 04. To understand annealing treatment and its effects	**3** 學分 **(54** 小時**)**

			05. To understand solid solution structures and phase diagrams 06. To understand the diffusion in solid solutions 07. To understand the nucleation and growth in solidification and precipitation 08. To understand deformation twinning and martensite reactions 09. To cultivate the capability of problem solving 10. To cultivate the capability of information collection 11. To cultivate the capability of presentation 12. To cultivate the spirit of teamwork	
111/9/5~112/1/9 每週四 **18:20~21:00**	磁性材料	蔡佳霖老師	01.簡介 a.定義及單位 b.實驗方法 02.磁性的種類 03.磁性的現象 04.商業磁性材料	**3 學分** **(54 小時)**
111/9/5~112/1/9 每週六 **9:10~12:00**	相變化	張立信老師	01. 課程簡介 (Introduction) 02. 熱力學理論 (Thermodynamics) 03. 熱力學理論 (Thermodynamics) 04. 動力學理論 (Kinetics) 05. 動力學理論 (Kinetics) 06. 晶體界面 (Crystal Interfaces) 07. 晶體界面 (Crystal Interfaces) 08. 習作檢討 (Homework Review) 09. 期中考 (Midterm) 10. 固化 (Solidification)	**3 學分** **(54 小時)**

			11. 固化 (Solidification) 12. 固化 (Solidification) 13. 擴散相變 (Diffusional Phase Transformation) 14. 擴散相變 (Diffusional Phase Transformation) 15. 無擴散相變 (Diffusionless Phase Transformation) 16. 無擴散相變 (Diffusionless Phase Transformation) 17. 習作檢討 (Homework Review) 18. 期末考 (Final Exam)	