

碩士學分班第 29 期(108 學年度第二學期)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 |
|--|---------|-------|--|-----------------|
| 109/2/17~109/6/20 每週一 18:20~21:00 | 光電材料與元件 | 薛顯宗老師 | 01. Introduction to electro-optic materials and application. 02. Optical properties. 03. Key optoelectronic Devices 04. Amorphous Si - optoelectronic applications. 05. Phosphors and Luminescence. 06. Xerographic Photoreceptors. 07. Principles of Nonlinear Optical Response. 08. Nonlinear Waveguides. 09. Materials for Nonlinear Optical Signal processing. 10. Electro-optical effects in Liquid crystals. | 3 學分 (54 小時) |
| 109/2/17~109/6/20 每週三 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 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 | 3 學分 (54 小時) |

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| | | | <ul style="list-style-type: none"> 11. To cultivate the capability of presentation 12. To cultivate the spirit of teamwork | |
| 109/2/17~109/6/20 每週五 18:20~21:00 | 電子顯微鏡原理 | 武東星老師 | <ul style="list-style-type: none"> 01. Microscopy with light and electrons I 02. Microscopy with light and electrons II 03. Electron-specimen interactions: processes and detectors I 04. Electron-specimen interactions: processes and detectors II 05. The electron microscope family 06. The electron microscope family II 07. Specimen preparation for electron microscopy I 08. Specimen preparation for electron microscopy II 09 .Midterm exam 10. The interpretation and analysis of micrographs I 11 .The interpretation and analysis of micrographs II 12 .Analysis in the electron microscope I 13 .Analysis in the electron microscope II 14 .Specialised EM- and other microscopical and analytical techniques I 15 .Specialised EM- and other microscopical and analytical techniques II 16 .Examples of the use of electron microscopy I 17 .Examples of the use of electron microscopy II 18 .Final Oral Exam | 3 學分 (54 小時) |
| 109/2/17~109/6/20 每週六 09:10~12:00 | 相變化 | 張立信老師 | <ul style="list-style-type: none"> 01. 課程簡介 (Introduction) 02. 熱力學理論 (Thermodynamics) 03. 熱力學理論 (Thermodynamics) | 3 學分 (54 小時) |

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| | | | <ul style="list-style-type: none">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)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) | |
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