|  |  |
| --- | --- |
|  明志科技大學Ming Chi University of Technology | 規章編號Regulation No. |
| AB30140009 |

|  |
| --- |
| 材料工程系Department of Materials Engineering委託檢測服務管理辦法Regulations Governing Management of the Commissioned Testing Services |

制定部門：材料工程系

Formulated by: Department of Materials Engineering

中華民國 114年04月10日 修訂

Revised on April 10, 2025

|  |
| --- |
| 修訂記錄：Revision Record:102.09.18 系務會議制訂Formulated at the Department Council Meeting on September 18, 2013104.09.30 系務會議修訂Revised at the Department Council Meeting on September 30, 2015106.11.02 系務會議修訂Revised at the Department Council Meeting on November 2, 2017108.03.07 系務會議修訂Revised at the Department Council Meeting on March 7, 2019109.04.16 系務會議修訂Revised at the Department Council Meeting on April 16, 2020109.12.24 系務會議修訂Revised at the Department Council Meeting on December 24, 2020111.05.26 系務會議修訂Revised at the Department Council Meeting on May 26, 2022111.09.15 系務會議修訂Revised at the Department Council Meeting on September 15, 2022114.04.10 系務會議修訂Revised at the Department Council Meeting on April 10, 2025 |

著作權人:明志科技大學材料工程系

Copyright Owner: Department of Materials Engineering, Ming Chi University of Technology

目 錄

|  |  |
| --- | --- |
| 內容 | 頁次 |
| 1. 目的
 | 1 |
| 1. 適用範圍
 | 1 |
| 1. 委託檢測服務內容
 | 1 |
| 1. 檢測費用開立方式
 | 2 |
| 1. 委託檢測服務費用運用方式
 | 3 |
| 1. 結案手續
 | 3 |
| 1. 附則
 | 3 |
| 1. 實施與修訂
 | 3 |
| 附表一 儀器檢測申請表(表號AB30140109) | 4 |
| 附表二 分析設備收費標準表(表號AB30140209)  | 6 |
| 附表三 Nano Indentation檢測送件單(表號AB30140309) | 8 |
| 附表四 奈米壓痕儀 檢測收費標準(表號AB30140409) | 9 |
| 附表五 光致發光光譜儀 檢測收費標準(表號AB30140509) | 12 |

Table of Contents

|  |  |
| --- | --- |
| Contents | Page |
| 1. Purpose
 | 1 |
| 1. Scope of Application
 | 1 |
| 1. Details of Commissioned Testing Services
 | 1 |
| 1. Billing Method for Testing Fees
 | 2 |
| 1. Usage of Commissioned Testing Service Fees
 | 3 |
| 1. Closure Procedures
 | 3 |
| 1. Supplementary Provisions
 | 3 |
| 1. Implementation and Revisions
 | 3 |
| 1. Instrument Testing Application Form (Form No. AB30140109)
 | 5 |
| 1. Analysis Equipment Fee Schedule (Form No. AB30140209)
 | 7 |
| 1. Nano Indentation Testing Submission Form (Form No. AB30140309)
 | 10 |
| 1. Nanoindenter Testing Fee Schedule (Form No. AB30140409)
 | 11 |
| 1. Photoluminescence Spectroscopy Testing Fee Schedule (Form No. AB30140509)
 | 13 |

**明志科技大學
Ming Chi University of Technology**

**材料工程系委託檢測服務管理辦法
Regulations Governing Management of the Commissioned Testing Services, Department of Materials Engineering**

102.09.18 系務會議制訂
Formulated at the Department Council Meeting on September 18, 2013

114.04.10 系務會議修訂
Revised at the Department Council Meeting on April 10, 2025

1. 目的

依據本校「委託檢測服務管理辦法」之原則，善用材料工程系(以下簡稱本系)既有之研發技術、儀器設備等資源，訂定「材料工程系委託檢測服務管理辦法」（以下簡稱本辦法）。

Article 1 Purpose

To make effective use of existing R&D technologies and instrument resources of the Department of Materials Engineering’s (hereinafter referred to as “the Department”), these “*Regulations Governing Management of the Commissioned Testing Services, Department of Materials Engineering*” are formulated in accordance with the “Regulations Governing Commissioned Testing Services” of the University.

1. 適用範圍

凡符合本系之發展方向，並屬於本系之購買設備，均可接受外界委託檢測檢驗服務之申請。

Article 2 Scope of Application

All external applications for testing services that align with the Department’s development direction and utilize equipment purchased by the Department are accepted.

1. 委託檢測服務內容
2. 一般檢測：委託人應依規定填寫儀器檢測申請表(表號AB30140109)向本系受委託實驗室提出申請，收費標準依據本系分析設備收費標準表(表號AB30140209)；本校其他系所以三折計價收費，本企業及長庚等學校以五折計價收費，外校學術單位以七折計價收費，其他單位則原價收費。
3. 奈米壓痕儀檢測：委託人應依規定填寫Nano Indentation

檢測送件單(表號AB30140309)向本系受委託實驗室提出申請，收費標準依據奈米壓痕儀檢測收費標準 (表號AB30140409)。

1. 腐蝕性質測試類別：包含材料腐蝕及腐蝕破裂性質測試、表面塗裝及

鍍層性質測試及設備腐蝕檢測與破損分析等檢測項目，委託人應依規定填寫儀器檢測申請表(表號AB30140109)向本系受委託實驗室提出申請。本校其他系所以三折計價收費，本企業及長庚等學校以五折計價收費，外校學術單位以七折計價收費，其他單位則原價收費。

1. 穿透式電子顯微鏡檢測(TEM)：本校教師收費方式以每時段(3小時)2000元計算，若當年度無國科會或其他計劃累計金額未達40萬元者，以每時段(3小時)1000元計算。

Article 3 Details of Commissioned Testing Services

1. General Testing: Applicants shall complete the Instrument Testing Application Form (Form No. AB30140109) in accordance with relevant provisions and submit it to the designated laboratory. Fees follow the Analysis Equipment Fee Schedule (Form No. AB30140209) of the Department. For fees applicable to other units or entities, the internal University departments pays 30% of the listed price, enterprises engaged in the same discipline or industry as the Department or any unit under Chang Gung University pay 50% of the listed price, and external academic institutions pay 70% of the listed price. Any other organization which is none of above shall pay full price.
2. Nanoindenter Testing: Applicants shall complete the Nano Indentation Testing Submission Form (Form No. AB30140309) and submit it to the designated laboratory. Fees follow the Nanoindenter Testing Fee Schedule (Form No. AB30140409).
3. Corrosion Testing: Includes material corrosion and cracking tests, surface coatings, plating tests, and corrosion testing and failure analysis for equipment. Applicants shall complete the Instrument Testing Application Form (Form No. AB30140109). and submit it to the designated laboratory. Same discount structure as prescribed in Item 1 herein applies.
4. Transmission Electron Microscope (TEM) Testing: For University faculty, the fee will be NT$2,000 per session (3 hours); for University faculty who is not engaged in projects of the National Science and Technology Council (NSTC) or receives below NT$400,000 from other projects totally, the fee will be NT$1,000 per session (3 hours).

第四條 檢測費用開立方式

 本校教師以研究計畫或契約約定者(如產學合作計畫)、如不是研究計畫、

 無產學合作計畫契約及產學合作研究成果全數歸屬我校者，得以開立收據；其餘者皆開立發票。

Article 4 Billing Method for Testing Fees

Concerning commissioned testing, if the testing is involved in research projects or contracts (e.g., industry-academia cooperation project), not involved in research projects, not performed under any industry-academia cooperation project contract, or is involved in industry-academia cooperation research with results fully contributed to the University, all conducted by a University faculty, a receipt will be issued; for commissioned testing in any other form not stated above, an invoice must be issued.

第五條 受託檢測服務費用運用方式

受託檢測服務費用淨額之百分之二十為學校管理費，百分之五十為人事費，百分之三十為本系之耗材費，文具費與設備儀器維修保養費，由本系受託實驗室檢附單據委請系技士協助辦理核銷。

Article 5 Usage of Commissioned Testing Service Fees

Concerning the allocation of the net value from the commissioned testing fee, 20% will be allocated as University management fee, 50% will be allocated as personnel expenses, and 30% will be allocated as Department expenses for consumables, stationery, and equipment maintenance. Relevant reimbursements will be handled by Department technician with documentation and vouchers submitted by the designated laboratory of the Department.

第六條 結案手續

受託檢測服務之實驗室應視需要提供委託人檢測報告。

Article 6 Closure Procedures

The designated laboratory shall provide a test report to the commissioning party as necessary.

第七條 附則

委託單位不得將受託單位提供檢測報告用於商業廣告用 。如有商業廣告用途需求 者，另依本校「研發成果使用 校名(徽)、標誌暨商標管理辦法」規定辦理。

Article 7 Supplementary Provisions

Commissioning parties may not use testing reports provided by the designated unit for commercial advertising. For such purposes, separate application per the “Regulations Governing Use of Name, Emblem, and Trademark in R&D Results, Ming Chi University of Technology” is required.

第八條 實施與修訂

本辦法經系務會議通過，陳校長核定後公布實施，修訂時亦同。

Article 8 Implementation and Revisions

These Regulations shall be implemented upon endorsement by the Department Council Meeting and presented to the President for approval, and the same shall apply to any revisions.

**明志科技大學材料工程系儀器檢測申請表**

附表一

設備名稱：

委託單位：

統一編號：

委託人姓名/聯絡方式：

通訊地址：

|  |
| --- |
| 檢測費用結算表 |
| 操作者 | 使用日期 | 檢測(時數) | 小結 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| 費用總計：  |

材料系 實驗室負責

主任： 教師：

繳款方式：

□現金繳款：逕由總務處出納組繳款

□支票、郵政匯票(抬頭均請開立財團法人明志科技大學)

□逕匯入學校帳戶：請務必於匯款單註明設備名稱檢測費及繳款人姓名，且通知本系已完成匯款

請逕匯華南銀行泰山分行

 專戶存款帳號：193200017296

戶名：財團法人明志科技大學

經由本系確認入帳後將由學校開立發票及郵寄

備註：本校教師委託案須加註計畫編號，方可開立收據

表號：AB30140109

Appendix 1

**Department of Materials Engineering, Ming Chi University of Technology**

**Instrument Testing Application Form**

Equipment Name:

Commissioning Unit:

Tax ID:

Commissioner Name/Contact Info:

Mailing Address:

|  |
| --- |
| Testing Fee Summary |
| Operator | Date Used | Testing Duration (Hours) | Subtotal |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| Fees Total:  |

Department of Materials Engineering Lab Manager

Chair: Academic Staff:

Payment Method:

□ Cash: Pay at the Cashier, Office of General Affairs

□ Check/Post Office Money Order: Payable to “Ming Chi University of Technology”

□ Bank Transfer: Indicate equipment and payer name on remittance form, and notify the Department

Make payment to: Hua Nan Bank Taishan Branch

 Account No.: 193200017296

Account Name: Ming Chi University of Technology

Invoice will be issued and mailed after payment confirmation

Note: Internal University faculty shall include project number to issue a receipt.

Form No.: AB30140109

|  |  |  |
| --- | --- | --- |
| **分析設備** | **服務所需時間** | **收費標準** |
| **(新台幣元，含稅)** |
| SEM | 2~3天 | 1050**元**/hr |
| FE-SEM | 2~3天 | 2100**元**/hr |
| EDX | 2~3天 | 1050**元**/hr |
| XRD | 2~3天 | 1050**元**/hr |
| TEM | 兩周 | 上機 4200**元**/hr (一次必須預約三小時) |
| AFM | 2~3天 | 1050**元**/hr |
| α-Step | 1天 | 315**元**/件 |
| 奈米壓痕儀 | 2~3天 | 請參考後頁附表三及四規定 |
| 刮痕儀 | 2~3天 | 630**元**/刮痕道次 |
| 磨耗試驗機 | 2~3天 | 1050**元**/hr |
| FTIR | 2~3天 | 1260**元**/hr |
| Raman | 兩周 | 2100**元**/hr |
| 鍍膜測試 | 兩周 | 8400**元**/次 |
| 橢圓偏光儀 | 2~3天 | 2625**元**/hr |
| zeta potential | 2~3天 | 735**元**/hr (標準品630**元**/支樣品室735元/個) |
| 光致發光光譜儀 | 2~3天 | 請參考後頁附表五規定 |
| TGA | 2~3天 | 1260**元**/hr |
| DSC | 2~3天 | 1260**元**/hr |
| UV/VIS | 2~3天 | 1260**元**/hr |
| SEM鍍金/白金 | 1天 | 315**元**/次 |
| 金相顯微結構分析 | 兩周 | 2310元/件 |
| (含光學顯微鏡照片拍攝) |
| 微小硬度分析 | 2~3天 | 735**元**/件 |
| 傳統硬度分析(勃氏、洛氏、維克氏、蕭氏) | 2~3天 | 735**元**/件 |
| 拉伸實驗 | 2~3天 | 525**元**/件 |
| 四點探針 | 2~3天 | 210元/片 |
| 退火爐 | 2~3天 | 525元/爐 |
| 接觸角 | 2~3天 | 1260元/hr |
| 白光干涉儀 | 2~3天 | 1575元/hr |
| 比表面積分析儀 | 一周 | 4200元/個 |

表號：AB30140209

附表二

Appendix 2

|  |  |  |
| --- | --- | --- |
|  **Equipment**附表二 | **Service Tme** | **Standards** |
| **(TWD, tax included)** |
| SEM | 2~3 Days | **NT$**1,050/hr |
| FE-SEM | 2~3 Days | **NT$**2,100/hr |
| EDX | 2~3 Days | **NT$**1,050/hr |
| XRD | 2~3 Days | **NT$**1,050/hr |
| TEM | Two Weeks | Hand-on **NT$**4,200/hr (3-hour blocks required each test) |
| AFM | 2~3 Days | **NT$**1,050/hr |
| α-Step | 1 Day | **NT$**315/Test Case |
| Nanoindentor | 2~3 Days | Refer to Appendices 3 and 4 |
| Scratch Tester | 2~3 Days | **NT$**630/Scratch |
| Abrasion Tester | 2~3 Days | **NT$**1,050/hr |
| FTIR | 2~3 Days | **NT$**1,260/hr |
| Raman | Two Weeks | **NT$**2,100/hr |
| Coating Test | Two Weeks | **NT$**8,400/Test |
| Ellipsometer | 2~3 Days | **NT$**2,625/hr |
| zeta potential | 2~3 Days | **NT$**735/hr (Standard Sample **NT$**630/PcSample chamber NT$735/Item) |
| Photoluminescence Spectroscopy | 2~3 Days | Refer to Appendix 5 |
| TGA | 2~3 Days | **NT$**1,260/hr |
| DSC | 2~3 Days | **NT$**1,260/hr |
| UV/VIS | 2~3 Days | **NT$**1,260/hr |
| SEM Gold/Pt Coating | 1 Day | **NT$**315/Test |
| Metallographic Analysis | Two Weeks | NT$2,310/Test Case |
| (includes photo captured via optical microscope) |
| Microhardness | 2~3 Days | **NT$**735/Test Case |
| Conventional Hardness(Brinell, Rockwell, Vickers, or Shore) | 2~3 Days | **NT$**735/Test Case |
| Tensile Test | 2~3 Days | **NT$**525/Test Case |
| 4-Point Probe | 2~3 Days | NT$210/Piece |
| Annealer | 2~3 Days | NT$525/Annealer |
| Contact Angle | 2~3 Days | NT$1,260/hr |
| White Light Interferometer | 2~3 Days | NT$1,575/hr |
| Surface Area and Porosimetry Analyser | One Week | NT$4,200/Item |

Form No.: AB30140209

附表三

**Nano Indentation檢測送件單**

|  |  |
| --- | --- |
| 學校單位 |  |
| 指導教授/學生姓名 |  |
| 檢測件數 | ⬜ Nanoindentation 件⬜ Nano Scratch 件⬜ Nano Wear 件 ⬜單一直線反覆式 ⬜掃描區域式 |
| 每件檢測點數 | ⬜ Nanoindentation 點⬜ Nano Scratch 點⬜ Nano Wear 點 ⬜單一直線反覆式 ⬜掃描區域式 |
| 試片種類 | ⬜ Bulk⬜ Thin film, Thickness nm |
| 被測材料種類 |  |
| 試片表面粗糙度 |  |
| e-mail |  |
| 連絡電話 |  |

備註:

請將以上表單資料填寫完整後寄給明志科技大學材料工程系李志偉教授(jefflee@mail.mcut.edu.tw)，再安排後續檢測分析實驗的時間。

奈米表面分析實驗室連絡電話02-29089899轉6329

表號：AB30140309

附表四

**明志科技大學材料工程系 奈米壓痕儀 檢測收費標準**

【學界檢測收費標準】

一、奈米壓痕(Nano Indentation)：

|  |
| --- |
| 1件以5個點為標準收費525元。 |
| 每多測一點收費105元。 |

二、奈米刮痕(Nano-Scratch)：

|  |
| --- |
| 因檢測需要更換鑽石針頭，酌收換針費用525元。 |
| 1道為525元。(提供數據與AFM刮痕圖) |

三、奈米磨耗(Nano-Wear)：

|  |
| --- |
| 因檢測需要更換鑽石針頭，酌收換針費用520元。 |
| 單一直線反覆式奈米磨耗試驗：每反覆10次為1050元。(提供AFM磨耗圖與磨耗深度數據) |
| (2)掃描區域式奈米磨耗試驗：每1點反覆5次為2100元。(掃描面積最大限制10μm\*10μm) (提供AFM磨耗圖與磨耗深度數據) |

 【業界檢測收費標準】

|  |
| --- |
| 無自備探針：5250**元**/hr |
| 自備探針：3150元/hr |

備註：

|  |
| --- |
| 1. 請先寫上頁(表號 AB30140309)之檢測送件單，並註明相關資訊後寄給李志偉老師(jefflee@mail.mcut.edu.tw)，再安排後續檢測分析實驗的時間。2.上述費用為含稅費用。 |

表號：AB30140409

Appendix 3

**Nano Indentation Testing Submission Form**

|  |  |
| --- | --- |
| Institution/Unit |  |
| Name of Advisor/Student |  |
| Test Items | ⬜ Nanoindentation Items⬜ Nano Scratch Items⬜ Nano Wear Items ⬜ Single-line Repeated ⬜ Scanning Area |
| Number of Test Points per Sample | ⬜ Nanoindentation Points⬜ Nano Scratch Points⬜ Nano Wear Points ⬜ Single-line Repeated ⬜ Scanning Area |
| Sample Type | ⬜ Bulk⬜ Thin film, Thickness nm |
| Material Type of the Sample to Be Tested |  |
| Surface Roughness of Sample |  |
| e-mail |  |
| Contact No. |  |

Remarks:

Please complete and send this Form to Prof. Chih-Wei Lee of the Department of Materials Engineering, Ming Chi University of Technology at jefflee@mail.mcut.edu.tw

Nano Surface Analysis Lab 02-29089899 Ext. 6329

Form No.: AB30140309

Appendix 4

**Department of Materials Engineering, Ming Chi University of Technology**

**Nanoindenter Testing Fee Schedule**

[Standards for Academic Institution Commissions]

1. Nano Indentation:

|  |
| --- |
| Base price: NT$525 per sample (incl. 5 points) |
| NT$105 for every extra point. |

1. Nano-Scratch:

|  |
| --- |
| An additional fee of NT$525 will be charged for replacement to diamond tip as the testing may require. |
| NT$525 per scratch. (includes data and AFM scratch image) |

1. Nano-Wear:

|  |
| --- |
| An additional fee of NT$520 will be charged for replacement to diamond tip as the testing may require. |
| Single-line Repeated Nano-Wear Test: NT$1,050 per 10 cycles. (Includes AFM wear image and depth data) |
| (2)Scanning Area Nano-Wear Test: NT$2,100 per 5 cycles on 1 point. (Max. Scanning Area 10μm\*10μm) (Includes AFM wear image and depth data) |

[Standards for Industry Commissions]

|  |
| --- |
| Without Probe Provided: **NT$**5,250/hr |
| With Self-Provided Probe: NT$3,150/hr |

Remarks:

|  |
| --- |
| 1. Complete the Testing Submission Form from the previous page (Form No. AB30140309) with all relevant information and send it to Prof. Chih-Wei Lee at jefflee@mail.mcut.edu.tw for scheduling.2. All prices listed above include tax. |

Form No.: AB30140409

附表五

光致發光光譜儀 檢測收費標準

|  |
| --- |
| 一、限定使用450 W ozone-free xenon arc lamp光源 |
| PL emmission可見光(<850nm)範圍量測  | 1575元/小時 |
| PL emmission紅外見光(>850nm)範圍量測  | 2100元/小時 |
| 二、TRPL量測、使用Microsecond flashlamp/Picosecond pulsed diode lasers光源 |
| 量測、低溫系統、真空系統或其他額外功能 | 2625元/小時 |

上述費用為含稅費用。

表號：AB30140509

Appendix 5

Photoluminescence Spectroscopy Testing Fee Schedule

|  |
| --- |
| 1. Limited to light source of 450 W ozone-free xenon arc lamp |
| PL emission in visible range (<850nm)  | NT$1,575/hour |
| PL emission in infrared range (>850nm)  | NT$2,100/hour |
| 2. TRPL measurement, with light source of Microsecond flashlamp/Picosecond pulsed diode lasers |
| Measurement, low temperature system, vacuum system or other advanced functionalities | NT$2,625/hour |

All prices listed above include tax.

Form No.: AB30140509