**National Chung Hsing University**

**i-Cast’s**

**Core Facility Management Regulations**

**1.** **Instrument List**

* Field Emission Scanning Electron Microscope (FESEM)
* High-Resolution Transmission Electron Microscope (TEM)
* Multifunctional Scanning Probe Microscope (ICON\_AFM)
* Multifunctional Scanning Probe Microscope (Park\_AFM)
* Precision Ion Polishing System (CP)
* 3D Nano-Raman Microscope System (NF30)
* Large-Scale Vacuum Coating System
* Fourier Transform Infrared Spectrometer (FTIR)
* Dynamic Light Scattering Analyzer (DLS)
* UV-Vis Spectrophotometer (UV-Vis)
* Thermogravimetric Analyzer (TGA)
* Contact Angle Goniometer

**2.** **Sample Preparation**

Please refer to the sample requirements specified for each instrument or consult the relevant technical staff.

**3. Reservation Method**

1. The time slots from **9:00–12:00** and **14:00–17:00** on weekdays are reserved for **assisted operation by staff**, while **12:00–14:00, 17:00–20:00, and 20:00–23:00** are available for **self-operation**. Users must register for an account and make reservations through the website of the Advanced Science and Technology Research Center, National Chung Hsing University.
2. If no reservations are made for assisted operation time slots by the day before or on the same day, users may arrange for self-operation with the administrator.
3. If an experiment needs to be canceled, please notify by phone **at least three days before the scheduled session**. Otherwise, the user will still be charged the start-up fee (1 hr). Accumulated violations up to three times will result in suspension of user privileges.
4. Users must arrive on time for their reserved session. If the user is **more than 30 minutes late without prior notice**, the reservation will be canceled and the start-up fee (1 hr) will be charged. Accumulated violations up to three times will result in suspension of user privileges.
5. Users are required to bring their own blank CD/DVD discs.

**4.** **Pricing**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| 2025 Charges | | | | | |  | 113.06.28 |
|  | Instruments | Self-Operation | Assisted Operation (On-Campus) | Assisted Operation (Off-Campus, Academic) | Assisted Operation (Industry) | Note | |
| Session / Reservation | SEM | 400/hr | 800/hr | 900/hr | 2000/hr | Usage under 30 minutes is charged as half an hour; usage from 30 to 60 minutes is charged as one hour.  Assisted operation by a technician during non-standard hours is charged at 1.5× the regular rate for 12:00–14:00, and 2× the regular rate after 17:00.  AFM probe costs are charged separately.  EDS usage exceeding 10 times is charged at the price for 10 sessions. | |
| EDS | 200/point， | | | |
| Coating | 300/time | | | |
| AFM | 500/hr | 800/hr | 900/hr | 3000/hr |
| AFM Probe | 1000元/Probe | | | |
| Raman | 500/hr | 800/hr | 900/hr | 3000/hr |
| Profile meter | 400/hr | 800/hr | 900/hr | 2000/hr |
| CP(Cross section mode) | 400/hr | 1600/hr | 1600/hr | 3000/hr |
| PVD | 400/hr | 800/hr | 900/hr | 2000/hr |
| Number of Items / Reservation | DLS | 200/item | 500/ item | 600/ item | 1000/ item | The pH of liquid samples for FTIR must be within the range of 6–8.  TGA samples must not contain halogens or salts.  For TGA heating rates below 5 °C/min, additional charges will apply. | |
| UV-Vis 1 | 200/ item | 500/ item | 600/ item | 1000/ item |
| UV-Vis 2 | 200/ item | 500/ item | 600/ item | 1000/ item |
| FTIR | 200/ item | 500/ item | 600/ item | 1000/ item |
| Contact angle | 200/ item | 500/件 | 600/件 | 1000/件 |
| TGA | 400/ item | 800/ item | 800/ item | 1200/ item |

**5. Usage Rules**

1. **Prohibited Materials:** It is strictly forbidden to analyze materials that are highly volatile, toxic, or corrosive. Magnetic materials (including iron, cobalt, nickel) and polymer materials must be discussed with the instrument administrator before use to determine whether they can be analyzed. Violators will have their access privileges revoked and will be held responsible for any damages.
2. **Operation Log:** Users must fill in the **usage logbook**, including detailed usage time, sample type, affiliated unit, requester, and operator. Failure to complete the logbook will result in cancellation of usage privileges upon discovery.
3. **Instrument Maintenance:** In the event of temporary maintenance, the center reserves the right to cancel the reserved session(s) until the instrument is fully operational.
4. **Authorized Operation:** Only authorized personnel (instrument administrators or licensed operators) may operate the instruments. Unauthorized operation is strictly prohibited and will result in cancellation of laboratory reservation/usage privileges.
5. **Self-Operation Responsibility:** Users operating instruments on their own must fulfill management responsibilities. Do not allow unlicensed personnel to operate the instruments or lend reserved time slots to other laboratories without administrator approval. Any resulting damage will be the joint responsibility of the operator.
6. **Abnormal Conditions:** If the instrument shows any abnormality during operation, immediately notify the administrator. Do not attempt repairs by yourself.
7. **Laboratory Property:** Do not remove any items or consumables from the laboratory or use them without the administrator’s permission.
8. **Cleanliness and Personal Belongings:** After completing experiments, clean the bench and holders. Before leaving, ensure the instrument is returned to normal condition and personal belongings are taken. The laboratory is not responsible for personal items.
9. **Food and Drink:** Bringing food or beverages into the laboratory is strictly prohibited.
10. **Amendments:** Any unspecified rules may be revised and announced as necessary.

**License Management Regulations**

**Article 1. Eligibility for Operation**

1. Personnel from on-campus research units (including professors) may register for training during the designated training period.
2. Trainees will be issued a **Training Passport** during the course for participation in the training program.

**Article 2. Training Procedures**

1. Instrument training courses are generally held in the **first week of each month**, with a maximum of 10 participants per session. Interested trainees can register and pay through the center’s website.
2. After eligibility verification, trainees must inform the administrator and obtain a **Training Passport** to qualify for instrument observation and training. The Training Passport is valid for **two months**.
3. Trainees may practice on the instrument under the supervision of licensed operators during licensed operation time slots, **with the administrator’s approval**. Any damage caused during practice must be compensated by the trainee.
4. Trainees must accumulate **at least 10 hours of practice within two months** under instructor supervision and have no record of violations before taking the certification exam. Successful candidates will be granted a **user license**.
5. After passing the certification exam, the license certificate must be collected **in person within one week**.

**Article 3. License Revocation**

1. Users who hold a license but have not used the instrument within **two months of the last usage** will have their license revoked. Reapplication and re-certification are required to regain access.
2. Licensed users may explain instrument operation procedures, but **may not allow unlicensed personnel to operate the instrument**. Any violation or instrument damage due to improper operation will result in **license revocation**, liability for damages, and ineligibility of the associated laboratory personnel for recent training sessions.
3. Instrument usage records must be filled in **accurately and completely**. Failure to do so more than three times will result in license revocation.
4. Any issues encountered during operation must be reported **immediately** to the instrument administrator, with detailed logs recorded. Failure to report issues may result in joint liability. Instrument damage caused by improper operation may lead to **license revocation** and compensation obligations, depending on the severity.

**Article 4. Certification Exam**

1. The **user license certification exam** consists of a **practical operation test and an oral test**. The practical test is administered by the instrument administrator and must be completed **without errors** to pass.
2. Upon passing the exam, the trainee is granted an instrument license. Licensed users may reserve self-operation time slots **Monday to Friday (12:00–14:00, 17:00–20:00)**. Weekends and holidays are not available.
3. Candidates failing **three attempts** at the exam will permanently lose eligibility.

**Article 5. Instrument Maintenance**  
Users are responsible for assisting with routine maintenance. Food and drinks are strictly prohibited in the laboratory to maintain cleanliness.

**Article 6. Management and Amendments**  
These regulations may be revised as needed based on instrument usage and management requirements.