Rules and Regulations for XRD instruments

XRD Cluster 1 (Shimadzu Thin Film / Powder)

Users: All users

Operating Hours:
Office Hour: 9am to 5pm (Monday to Friday)
After Office Hours : 5pm to 9am (Monday to Friday)
Saturday and Sunday Whole Day

Booking : Block of up to 2hr per session, Maximum booking up to 4hrs per week

FYP, PhD and Research Staff
1) Users must pass safety quiz first and attend safety training
2) Must attend operational training before usage
3) All users must pass the XRD online quiz first (no time limit for the test)
4) Must have samples ready
5) Usage is waived for MSE FYP users
6) User can book up to 2hrs per session, max 4hrs per week
7) All users must accumulate 25 hrs of experience before they can access after office hour usage.
8) Trainers will make sure users are familiar with the instrument before giving after office hour usage access to them.

Penalty
1) Charges apply if users did not turn up for their booked XRD session
2) Users must cancel the booking at least 24 hrs before their session. Charges apply if users cancel booking thereafter.
3) Users must use at least 2 XRD sessions for the first month if not their account will become inactive.
4) Following (2), they have to wait for at least the following month for retraining. There will be charges for retraining.
5) Users must bear the cost of any damage and will be banned from using the instrument due to misuse
6) Users must bear the full responsibility of the instrument for the session they have booked. If user allow unauthorized users to operate the instrument during the session that he/she has booked, penalty will be implemented as follows:

1st Time
i. User will be banned from using all instruments in MSE
ii. On the following month, users will be downgraded to day access to that particular instrument, reassessment will be given before upgrading again

2nd Time
i. User will be banned on all instruments in MSE
ii. On the following month, user must apply for retraining with full training cost before accessing to that particular instrument. Training is subjected to availability.

3rd Time
i. User will be banned from using all instruments in MSE

For Users who have not booked and used XRD for a long time
1. If users have fulfilled the entire criterion stated above but are unable to use the XRD frequently after that, their access might be reverted to office hours usages until he is certified to be able to use the XRD proficiently.
2. The FOM will remove the access of the user who have not used the XRD for a year. In such event, user have to be re-trained and training cost is fully chargeable.

Bruker Powder D8 Advance

Operating Hours
All Day: 24 hours

Booking: Block of up to 2hr per session; Maximum booking up to 6 hrs per week
Block booking of more than 6hrs is available under Special Request for Analytical Characterization

PhD Students and Research Staff
1) Users must pass safety quiz first and attend safety training
2) Must attend operational training before usage
3) Users must place a reservation through the booking system, acquire their data during their booking slot.
4) Booking of time slot is up to 2hr per session
5) All users must accumulate 25 hrs of experience before they can access after office hour usage.
6) Trainers will make sure users are familiar with the instrument before giving after office hour usage access to them.

Penalty
1) Charges apply if users did not turn up for their booked XRD session
2) Users must cancel the booking at least 24 hrs before their session. Charges apply if users cancel booking thereafter.
3) Users must use at least 2 XRD sessions for the first month if not their account will become inactive.
4) Following (2), they have to wait for at least the following month for retraining. There will be charges for retraining.
5) Users will bear the cost of any damage and will be banned from using the instrument due to misuse.
6) Users must bear the full responsibility of the instrument for the session they have booked. If user allow unauthorized users to operate the instrument during the session that he/she has booked, penalty will be implemented as follows:

1st Time
i. User will be banned from using all instruments in MSE
ii. On the following month, users will be downgraded to day access to that particular instrument, reassessment will be given before upgrading again

2nd Time
i. User will be banned on all instruments in MSE
ii. On the following month, user must apply for retraining with full training cost before accessing to that particular instrument. Training is subjected to availability.

3rd Time
i. User will be banned from using all instruments in MSE
ii. On the following month, users must apply for retraining for that cluster of instruments (either SEM cluster; FESEM cluster; XRD cluster 1+2; TEM cluster), with full training costs.

7) In case of Sample Dropped in Chamber on in other ways to down the instrument – User will be banned for one month and have to be retrained on that particular instrument. Training is subjected to availability and will be chargeable.

8) All users must submit the incident report within 1 working day after the incident. Otherwise, user’s access to the instruments will be suspended indefinitely until the incident report have been submitted and the indicated time of access removal will take effect from the time of submission.

For Users who have not booked and used XRD for a long time

1. If users have fulfilled the entire criterion stated above but are unable to use the XRD frequently after that, their access might be reverted to office hours usage until he is certified to be able to use the XRD proficiently.
2. The FOM will remove the access of the user who have not used the XRD for a year. In such event, user have to be re-trained and training cost is fully chargeable.

PANalytical XRD

Users: PhD Students, Research Staff

Operating Hours
Office Hour: 9am to 5pm (Monday to Friday)
After Office Hours: 5pm to 9am (Monday to Friday)
Saturday and Sunday Whole Day

Booking : Block of up to 2hr per session, Maximum booking up to 4hrs per week
For Users who have not booked and used XRD for a long time

1. If users have fulfilled the entire criterion stated above but are unable to use the XRD frequently after that, their access might be reverted to office hours usages until he is certified to be able to use the XRD proficiently.
2. The FOM will remove the access of the user who have not used the XRD for a year. In such event, user have to be re-trained and training cost is fully chargeable.

Siemen D5000 – Variable Temperature XRD

1) Users must pass safety quiz first and attend safety training
2) Must attend operational training before usage
3) Must have samples ready
4) Charges apply if user did not turn up for his booked session
5) Users must cancel the booking at least 24 hrs before their session. Charges apply if users cancel booking thereafter.
6) User can book up to 2hrs per session, max 4hrs per week
7) All users must accumulate 25 hrs of experience before they can access after office hour usage.
8) FACTS staffs will ensure that users can fully operate this instrument before granting after office hour access to them
9) Student can apply for broad hours booking on variable temperature is only assisted by FACTS staff

For Users who have not booked and used XRD for a long time

1. If users have fulfilled the entire criterion stated above but are unable to use the XRD frequently after that, their access might be reverted to office hours usages until he is certified to be able to use the XRD proficiently.
2. The FOM will remove the access of the user who have not used the XRD for a year. In such event, user have to be re-trained and training cost is fully chargeable.

Bruker D8 Discover – For Thin Film

1) Glancing Incident Angle Diffraction (GID)

Criteria to do GID

a) User must have the following pre-requisites
   i) Done 0.5°, 1°, 2° and 3° incident angle on Panalytical
   ii) Must have film less than 100nm
   iii) Must have references to support the following
       o an establish crystal structure in the database (ICSD-Findit, not pdf2), if not, user must prepare a thick film (preferably > 200nm) first to determine their crystal structure
       o research group that has done similar work
   iv) All users who want to do GID must then submit proposal covering the following
      i) Objectives/reasons
      ii) Previous supporting data to justify why other techniques are inadequate
      iii) Supporting information from literature

2) Reciprocal Space Mapping (RSM), Texture, Stress Measurement, X-ray Reflectivity (XRR)

Criteria to do Mapping (RSM), Texture, Stress Measurement, X-ray Reflectivity (XRR)

a) All users who want to do Reciprocal Space Mapping (RSM), Texture, Stress and XRR must submit proposal with covering the following:
   i) Objectives/reasons

Penalty

1) Charges apply if users did not turn up for their booked session
2) Users must cancel the booking at least 24 hrs before their session. Charges apply if users cancel booking thereafter.
3) Users must use at least 2 XRD sessions for the first month if not their account will turn inactive.
4) Following (2), they have to wait for at least the following month for retraining. There will be charges for retraining.
5) Users will bear the cost of any damage to the instrument due to misuse
6) Users must bear the full responsibility of the instrument for the session they have booked. If user allow unauthorized users to operate the instrument during the session that he/she has booked, both the user and unauthorized user will NOT be allowed access to ALL instruments in FACTS and MSE for 1 month.

For Users who have not booked and used XRD for a long time

1. If users have fulfilled the entire criterion stated above but are unable to use the XRD frequently after that, their access might be reverted to office hours usages until he is certified to be able to use the XRD proficiently.
2. The FOM will remove the access of the user who have not used the XRD for a year. In such event, user have to be re-trained and training cost is fully chargeable.