Guidelines, Eligibility Criteria, Support Mechanicsm under DIC Scheme (FABLAB)

The objective of GTU-DIC Fablabs is to encourage the innovation, technology development, product prototyping, maker learning, and commerciziable product development. This will empower the maker-entrepreneurial culture, which at present is confined to ICT/ electronics/ Automobile/Mechanical domain. The Fablab programme will lead to a Multidisciplinary culture among multiple technology sectors and create a robust platform for the upcoming entrepreneurs to create indigenous technology products

Target Group: The target group for GTU DIC Fablabs are divided into three:

a. Corporates
b. Institutions (R & D Institutions/ Academic Institutions-schools, colleges, universities)
c. Individuals (SME 's, Startup entrepreneurs, Makers, Maker & Startup Communities)

Sector: General Engineering

Machines & Equipment's:

GTU DIC Fablabs will be equipped with machines and equipment's like Laser Cutter, Large Scale CNC 3D printers: Dimension SST 3D printer, High Resolution Mini NC, Vinyl Plotter, Bench drill, 3D Plotter Machine Electronic Components and Tools, Molding and Casting equipment's, Electronics Test Equipment's and Computers.

Policies and Procedures

- The safety of the people using Fab lab is a principal consideration.
- It is essential that Lab coordinator, FABLAB Advisor, Technical Person and Technology Innovation fellows take an active part in initiating preventive measures to control hazards associated with activities under their direction.
- Safety is an integral part of all programs in which there is a risk of injury or health in the
- academic, research and service areas.
- The rules and guidelines in this document apply to the entire fab lab area including the patio accessed by the garage doors and any other lab related work environment.
- All tools must remain in the Fabrication Lab at all times and may NOT be checked out. At no point will tools will be allowed outside of the lab and its adjacent support areas.
- The general Fablab guidelines will be applicable to every person using the Fablab

General Fablab Guidelines

General Guidelines for the Fablabs are given below, the details of which are covered under each section:

- **Registration & Online Booking**: The applicant has to first login into **ww.gtu.ac.in/DIC/Fablab** (Link of website may be change as per approval) and register an online-application before **24 hours** of accessing the facility. After logging in, the applicant has to create a profile and upload proofs of Identity (Identity Proofs Organizational/Institutional/Employee Identity/Student Identity/ Personal Identity in case of a maker or entrepreneur).

- **Purpose - Visit & Usage**: While login, the applicant can select the purpose of accessing the Fablab like Visit 'or Usage '. They will be provided with a Fablab Calendar, where they can mark their dates upon availability and Membership offerings. (Detailed under Membership).

  Request for visit to fab lab may be made online at least a week in advance and shall be subject to availability of free time.

  If the applicant is looking for Using a particular machine or equipment, then the machine(s)/ equipment (s) has to be specified, while making online booking/registration. The applicant should also mention on any technical support needed during operating the machines indicating the level of expertise. The website has an incorporated payment gateway, where the applicant can transfer the usage charges or payments through internet banking.

Request for machine usage should be made at least 24 hrs. before accessing the facility.

- **Fablab Access**: The registered applicants have to submit the receipt of online registration at Fablabs for accessing the Fablab facility and they will be provided with individual access cards. The users can only enter the facility by swiping their own access cards, and no tail gating is allowed.

- **Membership:** GTU DIC will issue MEMBERSHIP cards for the users (Corporates/ Institutions/ Individuals) for availing the Membership Offerings. One has to apply online for availing the membership card and the MEMBER will be given preferences, while blocking the time slots.

- **Machine Usage**: The machines will be allotted on availability basis and the users will be charged on machine usage on an **hourly basis**. Any overrun in work from the time slot

allocated will be charged extra. The usage charge is fixed by DIC Committee and DIC HUB from time to time.

- **Consumables:** The applicant/member should communicate GTU DIC HUB about the consumables required from the store at the time of registration. The consumables will be provided by GTU DIC on availability and it will be charged on consumption basis. GTU DIC HUB allows the applicant to bring in additional consumable, and it should be properly informed to GTU DIC for verification.

- **Working Hours:** The fablab working hours will be 10 hours a day starting from 9.00 Am to 7.00 Pm (Monday to Saturday). The time slot and working days is flexible based on request.

- **Workshops:** Workshops will be conducted once a month on pre-published dates for creating awareness among students, makers and enthusiasts. The applicants can block their time slot by online.

- **Safety:** The users of fab lab should strictly abide with the guidelines/ safety measures instructed by the Fablab Co-Ordinator and shall be responsible for the causalities that may arise.

  - GTU DIC will not be liable for any accidents /incidents occurred out of ignorance about the machine's negligence or non-compliance to safety guidelines
  - All users must attend a Safety Training session, pass the safety test and perform and pass skills tests on selected woodworking tools, will   be only allowed to access those machines.

Outbound Activities

1. Registration

- The applicant has to first login into **http://gtu.ac.in/dic/fablab/ and** register an online - application before 24 hours of accessing the facility. One can create his/ her own login and password. After logging in, the applicant has to create a profile and upload proof of Identity. This can be Employee Identity Cards, Institutional Identity cards (Faculty, Student, Fellows) or Personal Identity card in case of a maker or entrepreneur.
- If the applicant is registering on behalf of an Organization/ Institution, he/ she should also upload or produce a formal letter from the authorities, authorizing the person to access the Fablab.

The above activities complete the registration procedure.

Online Booking

- Once registration is done, he/ she will be directed to the links of Online booking, where he can check for the availability of fablab facility and block the required time slots. One can easily do online bookings at any time using the registration id provided to them.

Purpose

- While doing online booking, the applicant can select the purpose of accessing the Fablab i.e, _Visit 'or _Usage '. They will be provided with a Fablab Calender, where they can mark and block the dates upon availability.

Visit

- Any person, an institution, a maker, startup community or public can make visits to Fablab, to see and understand, what is happening in a Fablab, get introduce to machines, innovative project ideas done in Fablab etc.
- Online request for visiting fab lab has to be made at least a week in advance and shall be subject to availability of free time. The _Members 'of the fablab shall be given preferences while booking.

Lab Guests and Visitors
- Any individual who has completed the requirements for access may accompany Lab guests and visitors. He or she is responsible for that guest and that person is the _group leader '.
- Guests and visitors are not permitted to use any machines or tools and are not allowed in the machine use areas.
- Visits should be as brief as possible. The visitors have to enter their name/profession and area of interest in the logbook provided.

Fab Lab Occupancy Limit

- In order to maintain a safe work environment, strict user limits will be enforced.
- Faculty need to be aware of this limit when planning Lab use and should utilize some type of rotation or other strategy to avoid exceeding the occupancy limit.
- The maximum number of individuals allowed to work in the Lab at any given time is 10. The number can be increased based on the availability of machines.

Usage

- The machines or equipment's in the Fablab can be used with prior online booking, at least before 24 hrs of accessing the facility.
- If the applicant is looking for using a particular machine or equipment, then he/she has to specify the machine(s)/ equipment (s), while making online booking. The applicant should also mention about the level technical support needed for him/ her during operating the machines.

The level of expertise can be **Complete hands on support', Partial Support' or Only Instruction'**. He/ She can also specify the time duration of using selected machines and the usage is restricted within the time booked. In any case, the user is in requirement of extra hours, he shall be allowed to continue his work, subject to the availability of machines and free slots.

Usage Charges

The usage charges are calculated as below:
o Usage charges have two components: a) Machine Charges b) Overhead Charges.
o Machine usage charges includes a small percentage of recovery cost for the machine, usage duration, consumables used and utility charges (electricity charges, internet, firefighting, water on actuals)

o The overhead charges include manpower cost, technical assistance, common facility charges and utility charges (lights, fan, housekeeping, DG, building maintenance etc).

o Based on the above, GTU DIC fixes the usage charges. The charges are subject to vary as per the fablab operational cost. GTU DIC has right to revise the charges from time to time.

Note: Above mention charge is for outsider, selected project can use available facility of DIC FABLAB

Payment of usage charges

o The payment has to made in advance and it depends upon machines and time duration. Payment for the extra hours will be directly settled with the Fablab, subject to the availability of machines.
o The website has an incorporated payment gateway, where the applicant can transfer the usage charges or payments through internet banking. GTU DIC shall generate receipts for the payments (online as well as direct, if any) made.

2. Fablab Access:

Fablabs can be accessed for the following THREE activities:

i.   Visit to Fablab facility
ii. To use machines or equipment's for prototyping/ digital fabrication
iii. To participate in Maker Workshops, certification courses.
o For accessing the Fablabs, the registered applicants (Visit-Group Leader, Usage-User or Workshops-individual participant) have to submit the receipt of online booking pass to the Fablab coordinator or in-charge, who will verify your ID proofs and authorization letter, if any,

and issue individual access cards. The visitors/users/ participants can only enter into the facility by swiping their own access cards.

o Lab access may be limited during peak times. Any member who access the Fab Lab must fill out a record/ logbook to mark the usage timings. The duration of using fablab shall be noted and considered for Membership benefits.

o Under no circumstances, anyone will be allowed to have extended usage outside of standard operating hours.

3. Membership

Memberships are of THREE types
i.   Corporates (Companies)
ii. Institutions (R & D Centres/ Academic Institutions)
iii. Individuals (Startup entrepreneurs, Innovators, Makers)

❖ **Corporate Membership (Companies)**

- The membership fee for Corporates are Rs 10,000.00 for a year, Rs.6,000.00 for 6 months and Rs.4,000.00 for 3 months.

Benefits under corporate membership are:

Access:
o The corporates are provided with SIX numbers of access cards. The cards shall be issued to those employees prescribed by the company and the company should inform the Fablab Co-Ordinator regarding any change in users. The validity of card is 1 year.
o The Member is eligible for making ONE guest(s) visits in a month on behalf of their organization. The member shall intimate guest visit to Fablab coordinators, before one week in advance.
o **The Member shall be given an opportunity to demonstrate their protypes, or work done for 1 event in a year.**

Capacity building:
o The member is eligible for participating in TWO free workshops/machine training sessions free of cost in a year, which is limited to 2 participants per workshop.
o The Member can conduct/ host one Maker Workshop in a year in the facility.

Machine Usage:

- The Member shall be given preferences, while doing online booking. The member will be provided with free time slots for the first 24 hrs of booking.
- The Member shall be offered free machine usage for **150 hrs per year**.
- Only additional charges for consumables and machine usage (based on power consumption) shall be taken.

❖ **Institutional Membership: (Research & Development Centers and Academic Institutions)**

The membership fee for Institutions are Rs 8,000 for a year, Rs.5,000.00 for 6 months and Rs.3,000.00 for 3 months. The students/ fellows from member institutions shall not be charged for any membership.

The nodal officers of respective bootcamps have to take the institutional membership and students shall not charge for any membership. For school children (up to 12th standard), Fablab do not charge any membership fee, but shall be performed under the guidelines of a trained member.

Benefits under Institutional membership are:

Access:
- The institutions are provided with TWO numbers of access cards. The cards shall be issued to those students/research fellows prescribed by the institutions and the institution should inform the Fablab Co-Ordinator regarding any change in users. The validity of card is 1 year.
- The Member is eligible for making ONE guest(s) visit in three months, on behalf of their institutions. The member shall intimate guest visit to Fablab coordinators, before one week in advance.
- The Member shall be given an opportunity to demonstrate their protypes, or work done for 1 event in a year.
- The R & D and Educational Institutions are permitted to bring their institutional project guides, upon prior approval of the Fablab coordinators.

Capacity building:
- The member is eligible for participating in ONE workshop/ machine training sessions in a year free of cost, which is limited to 2 participants per workshop.

Machine Usage:
- The Member shall be given preferences, while doing online booking. The member will be provided with free time slots for the first 24 hrs of booking.
- The Member shall be offered free machine usage **for 150 hrs per year**.
- Only the additional cost for consumables and machine usage (based on power consumption) shall be charged.

❖ **Individual Membership (Startup entrepreneurs, Innovators, Makers)**

The membership fee for individuals is Rs.5000 for a year, Rs.3,000.00 for 3 months and Rs.2,000.00 for 3 months.

Individual memberships are offered to startup entrepreneurs, innovators and makers. Any community can also be considered under this category**.**

Benefits under Individual membership are:

Access:
- o Each individual is provided with only ONE access card and the validity of card is 1 year.
- o The Member is eligible for making ONE guest(s) visit in six months, related to his/ her project work. The member shall intimate guest visit to Fablab coordinators, before one week in advance.
- o The Member shall be given an opportunity to demonstrate their protypes, or work done for 1 event in a year.

Capacity building:
- o The member is eligible for participating in ONE workshop/ machine training session in a year free of cost.

Machine Usage:
- o The Member shall be given preferences, while doing online booking. The member will be provided with free time slots for the first 24 hrs of booking.
- o **The Member shall be offered free machine usage for 150 hrs per year.**
- o Only the additional cost for consumables and machine usage (based on power consumption) shall be charged.

Membership Validity:

Membership cards will remain valid only for requested period of time, i.e, 3 months, 6 months and 12 months, after which it automatically expires. The current rates and validity of cards are as follows:

Membership Category	3 months (Rs.)	6 months (Rs.)	12 months (Rs.)
Corporate	4,000/- **(upto 80 hrs)**	6,000/- **(upto 120 hrs)**	10,000/- **(upto 150 hrs)**
Institutional	3,000/- **(upto 80 hrs)**	5,000/- **(upto 120 hrs)**	8,000/- **(upto 150 hrs)**
Individual	2,000/- **(upto 80 hrs)**	3,000/- **(upto 120 hrs)**	5,000/- **(upto 150 hrs)**

Renewal of Membership
One can renew the access card upon its expiry by applying online. If one doesn 't wants to renew the card, it should be prior intimated to Fablab coordinators and surrender it to the Fablab.

4. Programmes/ Activities

- o Fablab will conduct marker workshops, certification programmes, machine trainings, project works, pre-fab trainings, community meets, conferences, delegation visits etc This will be updated in the Fablab Calendar as well as Kerala Start Up Mission Event calendar.
- o Applicants for training and certification courses will be invited through various media and selection of participants shall be done in a transparent manner. The training packages will be designed by Kerala Start Up Mission.
- o Fablab will also invite proposals for projects execution or Fablab initiatives.

Fablab Facility

1. Machines
2. Prototyping Equipment's
3. Consumable Items

Currently, GTU DIC Fablabs are equipped with the following machines and equipment's:

Note: Discussed in Executive Committee