



॥ सा विद्या या विमुक्तये ॥

ಭಾರತೀಯ ತಂತ್ರ ಜ್ಞಾ ನ ಸಂಸ್ಥೆ ಧಾರವಾಡ भारतीय प्रौद्योगिकी संस्थान धारवाड़ Indian Institute of Technology Dharwad

BACHELOR OF TECHNOLOGY (B.TECH.) PROGRAMME

(Applicable for students admitted in the Academic year 2022-23 onwards)

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Preface

The Indian Institute of Technology, Dharwad (IITDh) is one of the Indian Institutes of Technology in the country, set up with the objective of making available facilities for higher education, research and training in various fields of Science and Technology. The mission of IIT Dharwad is to create an ambiance in which new ideas, research and scholarship flourish, and from which the leaders and innovators of tomorrow emerge.

IIT Dharwad admits candidates for the undergraduate programmes (through Joint Entrance Examination, or JEE), for different postgraduate programmes and for various Ph.D. programmes. IIT Dharwad follows a specialized credit-based semester system. There are two Semesters in an academic year (Autumn: July-November, and Spring: January-April) during which all courses specified for various degree programmes are offered. There is one additional term during summer, called the Summer Term, in which select courses are offered (also termed as summer courses). The students are required to follow certain procedures and meet specified academic requirements each semester. This booklet gives comprehensive information on the existing Rules and Regulations for B.Tech. programme at IIT Dharwad.

IIT Dharwad gives freedom to its various Departments to tailor their academic programmes as per their specific needs, within the framework of the Rules and Regulations approved by the Senate from time to time. The programme, provides additional opportunities and flexibilities for students to optimize their learning experience. This needs continuous and meticulous planning of the academic profile on part of each student to fully utilize the opportunities. In their own interest, the students and parents/guardians are advised to get fully familiar with the Academic system of the Institute, since in many ways it is different from what they would have come across earlier. Student's attention is particularly drawn to the assessment procedures and the specific rules governing the grading system, academic performance requirements, etc.

IIT Dharwad is a very student-oriented place and we endeavor to always ensure that our students are offered the best opportunities that are needed to create outstanding scientists and engineers. The motto of IIT Dharwad is to bring back fun and joy into the learning process.

Thank you for your interest in IIT Dharwad. We wish all our students a very bright future and successful career.

Dean of Academic Programmes

1. Introduction

The B. Tech. programme consists of courses in basic sciences, humanities and social sciences, engineering and technology and other related topics. The sequence of studies broadly consists of three phases.

The first phase is an intense study of sciences, mathematics and humanities for deeper understanding of concepts than what was done in school. This is common for all UG programmes.

The second phase is the study of engineering sciences and technical arts (such as hands on engineering, engineering graphics, etc.). This emphasizes a broad-based knowledge in general engineering, and engineering methodologies, and enables the students to appreciate the links between science and engineering. This phase is also, by and large, common for all UG programmes, and overlaps with the first phase.

In the third phase, the students are exposed to subjects in their chosen areas of study, designed to train them in the methodologies of analysis of problems and synthesis of solutions. The courses dwell on the principles governing systems and processes, and develop in them the ability for physical and analytical modeling, design and development. They are also introduced to engineering practice through laboratory courses, works visits, practical training, projects etc., and these may vary from discipline to discipline.

In parallel with the third phase, students can strive to broaden their perspectives through electives, where they can take courses drawn from across the Institute.

At various stages of the programme, students are initiated into hands-on learning, research methodologies, library reference work, use of engineering and scientific equipment / instruments, learning of modern computational techniques, writing of technical and scientific reports and effective communication.

Apart from the minimum credit requirements for the award of the degree, opportunities exist for supplementing the learning experience by crediting additional courses, in diverse areas.

Syllabus of various programmes are given in the Courses of Study Bulletin (CSB) available on the Institute Intranet i.e. accessible from within the Institute network.

1.1 Organizational Structure for Academic Administration

The academic programmes of the Institute are governed by Rules and Regulations approved by the Senate from time to time. The Senate is a statutory and supreme body that governs all academic matters of the Institute, and the rulings of Senate Chairman (Director of The Institute) are final in regard to all academic issues. A definite time schedule is set by the Senate for various academic activities, through an Academic Calendar issued in the beginning of each academic year. The Senate continuously assesses the academic programmes and makes appropriate revisions/modifications/improvements as and when required through Department-level sub-committees (namely, Department Undergraduate Programme Committee or DUGC) and an Institute-Level Senate sub-committee (namely, Under Graduate Academic Performance Evaluation Committee or UGAPEC). Dean of Academic Programmes (Dean, AP) is the convener of the latter. Similarly, performance of each student is monitored by the Senate through UGAPEC. The Senate body also includes student representatives. Administrative back-up for all academic matters is provided by the Academic office.

On joining the Institute, a student is assigned a Faculty Advisor from his/her Department. Students are expected to consult the Faculty Advisor on any matter pertaining to their academic performance and the courses they may take in various semesters / summer term. The idea of a Faculty Advisor has been evolved

to extend guidance to the students enabling them to complete their courses of study for the required degree in a smooth and satisfactory manner.

All academic issues connected with the B. Tech. programme are handled by the UGAPEC. The workflow on any academic matter of students is shown below.

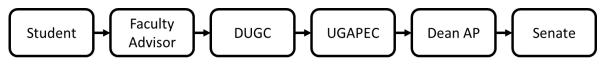


Figure 1: Organizational structure for academic matters

1.2 Academic Calendar

The academic activities of the Institute are regulated by Academic Calendar approved by the Senate and released at the beginning of each academic year. It is mandatory for students / faculty to strictly adhere to the academic calendar for completion of academic activities. Academic Calendar can be seen at the Academic Office homepage on Institute website.

2. Curriculum/Programme of Study

2.1 Curriculum

Every Department has a prescribed course structure which in general terms is known as the Curriculum or the Courses of Study (COS). It prescribes all the courses / labs / other requirements for the degree and sets out the nominal sequence semester-wise. It also gives the syllabus and a list of text / reference books for each course. The Courses of Study details are updated every semester and are made available on the Institute website.

2.2 Semester – Autumn, Spring, Summer

The Institute follows a credit-based semester system. There are two regular semesters in a year. The semester that begins in July (till November) is known as the Autumn Semester, and the semester that begins in January (till April) is known as the Spring Semester. During the summer vacation, i.e., (May-June), there is one additional term for select courses, known as the Summer Term.

The summer term is not a regular semester. Some courses may be offered in summer and students can register for these. During a summer term, an academic entity may offer a summer course to enable the students to clear their backlog courses and/or credit courses towards Minor / Honors, subject to strict adherence to the following guidelines.

- i. The course instructor/(s) / faculty/(ies) should be willing to offer the course. The UGAPEC should recommend offering of such a summer course for consideration and approval of the Dean of Academic Programmes. The course is offered on approval of the Dean of Academic Programmes.
- ii. The course is offered with adequate rigor and in the same manner as a regular semester course is offered.
- iii. The duration of the course is eight to ten weeks. The registration, examination and assessment and grading etc. are done in the same way as is done for regular semester courses. The total number of contact hours for the courses remains the same as that during the regular semesters, and therefore, the courses run at accelerated pace. For example, six hours of instructions per week is expected for a 3-0-0 course. In this connection, the Academic Calendar is strictly followed.
- iv. The course instructor strictly monitors the attendance of the students registered and s/he may award "DX" grade as per the attendance policy.
- v. At the most, a student is permitted to register only for 18 credits during any one summer term.
- vi. Courses offered in a summer term will be treated as equivalent to a regular semester courses for all accounting purposes.

2.3 Course Credit Structure

In general, a certain quantum of academic work measured in terms of credits is laid down as the requirements for a particular degree. A student earns credits by satisfactorily clearing courses/other academic activities every semester. The amount of credit associated with a course is dependent upon the number of hours of instruction and self-study required per week in that course. Similarly, the credit associated with any of the other activities is dependent upon the quantum of work expected to be put in for each of the other activity per week.

2.3.1 Theory and Laboratory Courses

Courses are broadly classified as Theory courses and Laboratory Courses. Theory courses consist of lecture (L) and tutorial (T) hours, but may have attached practical (P) hours in special cases. Laboratory courses consist of practical hours, but may have attached tutorial hours in special cases. Credit (C) for a course is dependent on the number of hours of instruction per week in that course, and is obtained by using a multiplier of two (2) for lecture and tutorial hours, and a multiplier of one (1) for laboratory hours, i.e.

$C = 2 \times (L + T) + P.$

Thus, for example, a theory course having two lectures and one tutorial per week throughout the semester carries six credits. Similarly, a laboratory course having one tutorial and three laboratory hours per week throughout semester carries five credits. In general, an *n*-credit course is estimated to require n hours of student effort per week comprising contact hours (i.e. classroom, tutorial, practical) and self-study hours (i.e. homework, assignments, etc.). Representative credit structures (in L-T-P-C format) for theory and laboratory courses are as follows.

| ħ | eory | cou | rse | Lab | orato | ry |
|--------|------|-----|-----|-----|-------|----|
| L | Т | Ρ | С | L | Т | F |
|) - | 1 | 0 | 6 | 0 | 0 | 3 |

In the Courses of Study bulletin, if a theory course is shown as, say, **ME 203 Fluid Mechanics with credit structure as 2-1-0-6**, it means:

| ME | Alphabetic code for Mechanical Engg. Department course | | | | | | |
|-----------|--|--|--|--|--|--|--|
| 2 | Year / Level code (This indicates that the course is typically offered in the Second | | | | | | |
| | year) | | | | | | |
| 03 | Serial Number and the Semester indicator (last digit indicates even or odd | | | | | | |
| | semester. Even = Spring Semester; Odd = Autumn Semester) | | | | | | |
| Fluid | Title of the course | | | | | | |
| Mechanics | | | | | | | |
| 2-1-0-6 | L-T-P-C (credit structure) | | | | | | |
| | Two hours of weekly lectures | | | | | | |
| | One hour of weekly tutorial | | | | | | |
| | Six-credit course | | | | | | |

In the Courses of Study bulletin, if a laboratory course is shown as, say, **ME 212 Fluid Mechanics lab with credit structure as 0-0-3-3**, it means:

| ME | Alphabetic code for Mechanical Engg. Department course | | | | |
|-----------|---|--|--|--|--|
| 2 | Year / Level code (This indicates that the course is typically offered in the Second year) | | | | |
| 12 | Serial Number and the Semester indicator (last digit indicates even or odd semester. Even = Spring Semester; Odd = Autumn Semester) | | | | |
| Fluid | Title of the course | | | | |
| Mechanics | ics | | | | |
| Lab | | | | | |
| 0-0-3-3 | L-T-P-C (credit structure) | | | | |
| | Three hours of weekly practicals/labs | | | | |
| | Three-credit course | | | | |

Table 2: Laboratory course nomenclature

Lab courses usually have either a 1 or a 6 as the middle digit in the course number.

Other academic activities consist of Seminars, Projects and NSO/NSS. These are credit as well as non-credit requirements. Seminars, Projects are credit requirements, whereas NSO is non-credit requirement.

2.3.2 Seminars

Some Departments may prescribe Seminar as a requirement for the B.Tech. Degree. Seminar is a course wherein under the guidance of a faculty member a student is expected to do an in-depth study in a specialized area by surveying published technical literature, understanding different aspects of the problem, and arriving at a state-of-the-art report. While undertaking a seminar, the student is expected to critically analyze works of various authors/researchers, learn the investigation methodologies, study concepts, techniques and the results presented therein and present a seminar report. It is mandatory to submit a report and give a seminar presentation before a panel constituted for the purpose. Seminars carry 3 credits.

2.3.3 Projects

2.3.3.1 B.Tech. Projects (BTP I and BTP II)

Some Departments may prescribe a Project as a requirement for the B.Tech. degree, wherein under the guidance of a faculty member a student is required to do some innovative work with the application of knowledge gained while undergoing various courses. The student is expected to do a survey of literature in the subject, work out a project plan and carry it out through experimentation and/or modelling / computation. Through the project work the student has to exhibit skills for both analysis and synthesis. These projects (BTPs) are offered as modules of 6 credits each (BTP-I and BTP-II). Departments may also prescribe a minimum performance in BTP-I for being eligible for BTP-II. BTPs can only be registered in the final year. Students are allowed to take both BTPs in a single semester, based on the recommendation of their BTP supervisor.

Even when it is not prescribed as a minimum requirement for the degree, a student can opt to do a BTP as an additional learning, if s/he so desires and can find suitable supervisor (s) to guide her/ him.

2.3.3.2 Co-op Projects

A student can undertake project work in an external organization, and seek credits for it as part of his/her degree requirements at IIT Dharwad, as detailed below.

 A student may work on a project during a semester from the Institute premises, alongside other courses. The student may also receive credits for the work done during the Co-op program. The students who opt for such a program need to complete the Co-op In-Campus Registration Form, with all required signatures, and submit it to the office of the Dean AP. This is required to obtain the bonafide certificate, NO OBJECTION certificate, etc.

Credits for the Co-op program: A student can earn B.Tech. project (BTP) credits through the work done in the Co-op program. The BTP rules as mentioned in the B.Tech. rule book will be applicable. A student can earn 6 or 12 credits depending on how involved the project is. Note that a student can earn a maximum of 12 BTP credits throughout the entire B.Tech. program.

To earn credits through the Co-op:

- The student must identify a willing faculty mentor for the project, who will decide how many credits are to be awarded, as well as assign the grade.
- The student must present her/his work in the Institute and submit a report, just as is done for a BTP. The external organization must be willing to accommodate this.

2.3.3.3 RnD Projects

An undergraduate student is eligible to register for RnD (Research and Development) projects any time after their fourth semester. Students should decide the topic and faculty supervisor of the RnD project based on mutual discussions, and register for the same at the beginning of the semester. Each RnD Project carries six credits. Throughout the program, a maximum of two such projects will be counted towards one's minimum credit requirement.

2.3.4 Non-Credit Requirements: NSO/NSS

A mandatory requirement for the award of degree is for each student to register for National Sports Organization (NSO) in the first semester and for National Social Service (NSS) in the second semester, or vice versa. These are normally conducted during evenings of week days and are designed for characterbuilding and to sensitize the students to social / national issues. These activities carry no credits and are evaluated as Pass (PP) / Not Pass (NP) by the respective coordinators.

2.4 Minimum Credit Requirements and Planning of Individual Academic Programme

Across all departments, a minimum of 250 credits is required for award of a B.Tech. degree. The credits are distributed semester-wise as shown in the Courses of Study bulletin for each department. Courses generally progress in sequences, building competencies. Their positioning indicates certain academic maturity on the part of the students. Some courses do, in addition, specify passing in courses offered earlier in the programmes as pre-requisites. Students are expected to follow the semester-wise schedule of courses given in the Courses of Study bulletin; they do, however, have a freedom to follow alternative schedules to optimize their academic profile with additional courses, keeping the prerequisite requirements for each course in mind. For students with backlog courses, such rescheduling may even become necessary. Such departures from suggested schedules need to be done very carefully, and always with advice from the Faculty Advisor.

2.5 Opportunities for Additional Learning

The B. Tech. programmes recognize the fact that students' aspirations, on one hand, and the demands of the work place, on the other, have become highly diverse. Every student has specific abilities, interests and career goals. Employers too look for people with different combinations of competencies and flavors.

Each of the programmes prescribes a minimum of credits, and courses that would qualify a candidate for the award of the Degree in a particular discipline. This approximately converts itself into about four theory courses and one or two laboratory courses or other activities like seminar, project, etc., every semester. Every student in that discipline undergoes this programme. This minimum content may not have much flexibility.

If a student wishes to learn more than the prescribed load, he is free to do so, as discussed next.

2.5.1 Guidelines for Earning Credits through Additional Learning Opportunities (ALO)

Students are eligible to take NPTEL/EDX/MOOC courses. Weightage of the continuous evaluation (Quizzes + End sem exam of NPTEL) would be a maximum up to 60% and the weightage of the end-semester examination would be a maximum up to 50%. The end-semester examination would be conducted specially for IIT Dharwad students.

- 1. A stipulated schedule is to be maintained for allowing/dropping a course (in the lines of a regular course) under Additional Learning Opportunities category.
- 2. One credit course will be graded as either P/NP (Pass or No Pass).
- 3. Courses worth two or more credits under Additional Learning Opportunities category will have to follow regular grading system.

- 4. During the semester (or otherwise), students may take up projects which are carried out in (or outside) the campus. Projects thus submitted may be considered as either 1 credit or 2 credit courses with an appropriate grade. Supervisor and faculty advisor would form the committee comprising of 3 faculty members for evaluation. Committee would first decide on the number of credits to be considered, followed by grading.
- 5. 1 credit or 2 credit projects may or may not be formally registered for, at the beginning of the project. Once completed, with the permission of the supervisor and faculty advisor, the students may put up the project report for evaluation.
- 6. Grades earned through courses taken under Additional Learning Opportunity category will be used in the calculation of SPI/CPI, but not towards the minimum credit requirements of one's programme.
- 7. Students who earn credits through Additional Learning Opportunity category, may untag at a later date based on the recommendation of the faculty advisor through the UGAPEC.

2.5.2 Minor Programmes

Minor programmes in various disciplines are being introduced in IIT Dharwad. Minor programmes are being offered for students to acquire a reasonable overview of a discipline other than his/her default B.Tech. curriculum. For example, Mechanical Engineering and Electrical Engineering students are eligible to earn a Minor in Computer Science.

- A minimum of 30 credits need to be obtained by taking courses in the chosen Minor.
- These 30 credits should be *in addition to* the credit requirements of the program in which a student is enrolled.
- Students interested in any Minor program are required to take mandatory/core courses and elective courses as applicable for each minor.
- If a course is part of one's B.Tech. curriculum as well as part of some Minor program, the corresponding credits will be counted only towards the credits of the B.Tech. degree and not towards the Minor.
- Registrations for courses under Minor programmes are simply considered as electives until the completion of one's degree, when one will be eligible to claim a Minor certification, subject to completion of the corresponding course/credit requirements. Students are advised to cautiously select their elective courses as part of a given Minor Programme, in consultation with the Faculty Advisor, so as not to affect one's academic standing.

Complementary to the Minor program is the **Honors** program. A student who takes the courses from a Minor program offered by his/her parent department is eligible to earn a *B.Tech. (with Honors)* in the given discipline. Students are eligible to earn a Minor as well as an Honor, or two Minors.

3. Registration

IIT Dharwad follows a specialized credit-based semester system. Physical registration at the beginning of each semester (on the prescribed dates announced in the Academic Calendar) is mandatory for every student till s/he completes her/his programme. If a student does not register in a particular semester without prior permission of the UGAPEC, her/his studentship is liable to be cancelled. Students are not permitted to re-register for course/(s), which they have already passed. Without registration, any academic activity (course / seminar / project, etc.) undergone by a student will not be counted towards the requirements of her/his degree.

3.1 Semester-wise Registration

On joining the Institute, each student is assigned a Faculty Advisor. The student can register for courses s/he intends to take during a given semester or summer term on the basis of the programme for each discipline as given in the Courses of Study bulletin and as per the advice given by his/her Faculty Advisor. The Faculty Advisor is expected to discuss with the student his/her academic performance during the previous semester and then decide the number and nature of the courses for which s/he can register during the semester within the framework of the guidelines as approved by the Senate. The Faculty Advisor may advise the student to drop one or more courses/activities based on his/ her academic performance. In fact, the Faculty Advisor may even advise a reduced load programme over several semesters for students with poor performance at the end of the first semester/year.

3.2 Procedure for Registration

The Institute generally has an online registration system and the registration is normally done on the first two days of each semester and the Summer Term. The registration schedule is announced in the Academic Calendar. In all circumstances, registration must be completed on or before the prescribed last date for registration. Students having outstanding dues to the Institute or a hostel shall not be permitted to register.

3.2.1 Online Registration

Online registration process involves filling up of an online Course Registration Form (CRF) stating the courses and project / seminar etc., that the student proposes to complete during that semester as per the prescribed curriculum. This should be done in consultation with the Faculty Advisor, who finally approves the registration. Unless this procedure is completed, registration will be considered invalid. All students without backlogs will do online registration.

3.2.2 Manual Registration

Students having backlog course/(s) is/are required to do manual registration by filling up the Course Registration Form (CRF) which will be made available to them by the Academic Office, through their Faculty Advisor. The student should duly complete the CRF, stating the courses and project / seminar etc. that s/he proposes to complete during that semester as per the prescribed curriculum, in consultation with the Faculty Advisor, get it approved by him/her and then submit the same to the Academic Office within the stipulated date for registration. Students belonging to Category V and those with four or more backlogs should additionally submit, along with the course registration form, a revised schedule for the succeeding semesters / summer term stating how the backlog courses will be cleared, in consultation with the Faculty Advisor.

3.2.3 Late Registration

Only for valid reasons, late registration may be permitted till the date specified in the Academic Calendar, on payment of a late registration fee.

3.2.4 Registration for the First Semester

In the first semester, courses common to all branches are generally offered. A student is normally required to register for all the courses listed in the curriculum for this semester. In fact, all students are automatically registered for the first semester. In the second semester, as for subsequent semesters, students themselves have to complete the registration formalities. Students, who are identified as academically weak at the end of first semester, may be prescribed a reduced load. Such students are required to do manual registration only.

3.2.5 Registration for Second and Subsequent Semesters

From second semester onwards, registration is dependent on the academic standing of the student. A student with an academic standing of Category I, II or III registers for the academic load specified for that semester by the Department. In addition, s/he may add one more course (6/8 credits) towards additional learning or to clear backlog courses, without this being considered an overload.

Students with poor academic standing (Category IV or V) are advised not to attempt full load. Faculty Advisors after careful scrutiny will advise reduced loads depending on previous performance. Every student, however, is required to register for a minimum of 18 credits in any semester.

3.3 Registration for Non-credit Courses

3.3.1 Registrations for NSO/NSS

One of the activities, NSO or NSS, is a mandatory requirement. Students are expected to complete these requirements during the first year (first two semesters). Formal registration for any one of these activities must be done along with other courses, at the beginning of the first two semesters. The choice of the activity will be done on the basis of the aptitude of the student for any one of these activities and will be decided by a committee constituted for the purpose. Once registered for one of these activities, no change will be permitted at a later stage. In case of award of a NP (not pass) grade, students are required to reregister these activities in the subsequent semesters. This requirement must be completed before the end of the second year. In case valid reasons exist, a student may be given special permission for completion of this requirement beyond second year.

In addition to the above mandatory requirements, the students are permitted to take NSS/NSO in subsequent years too, if they have special interest. This will be mentioned in the transcript.

3.4 Registration for Projects

3.4.1 Registration for B.Tech. Projects (BTPs)

Registration for B.Tech. Projects (BTPs) as specified in the curriculum, is similar to that for any other course. The details of allotment of topics, faculty supervisors etc., is specified by the concerned Department before the commencement of the semester.

3.4.2 Registration for Co-op Projects

Towards Co-op registration, students need to register for the BTP on the course registration portal at the beginning of the semester. In addition, they should submit the Co-op registration form, duly approved by their Faculty Advisor, Faculty Mentor and Industry Mentor, along with supporting offer letter from the Industry.

3.4.3 Registration for RnD Projects

RnD projects need to be registered on the course registration portal at the beginning of the semester. In addition, the student should decide upon a RnD project in mutual consultation with a faculty member, and also faculty his/her RnD project supervisor.

3.5 Registration for Additional Courses

Opportunities are provided for students to enhance their learning experience through earning additional credits.

Starting from the third semester, students who are not academically weak are permitted to take one additional 6 credits every semester in addition to the prescribed load for their degree, as mentioned earlier, subject to availability of seats in the course. A student has to pre-register for the course s/he intends to take towards the end of the previous semester and seats will be allotted based on the academic performance of the student towards the basic requirement of his/her degree. A student has to enter this extra course too in the course registration form, when permitted.

In any semester, a student cannot register for only those courses which form part of her/his additional learning component. There should at least be one course component that is specified as the minimum requirement of the degree. Moreover, a student cannot overstay in the programme once the minimum requirements prescribed for the degree are completed.

3.6 Registration for Summer Courses

Students can register for courses during summer up to a maximum 18 credits depending on their academic standing, on payment of registration fee at prescribed rates. A course will run during summer provided a faculty member is available for running the course and a minimum of 5 students are registered for the course. The Summer term typically runs for 8 weeks, during May-July. The total number of contact hours for the courses remains the same as that during the regular semesters, and therefore the courses run at accelerated pace. The evaluation and grading patterns also remain the same as during the regular semesters. The dropping of a Summer Course is permitted within seven days from the first lecture of the course. Fee is not refundable. Re-exam is permitted on the same terms and conditions like that of regular semester courses. Students with a DX grade in a particular course are not eligible to re-register for the same course during the summer term.

3.7 Dropping of courses

In each semester, the Academic Calendar sets a date for course registration, after which the students cannot register for additional courses.

When the need for dropping of course(s) arises, the student without any backlog courses should do online course adjustment and students with backlog course/s should do it manually by filling a Course Adjustment Form (CAF). CAF has to be signed by both the student and the Faculty Advisor and submitted to the Academic Office.

If a student finds her/his academic load too heavy, s/he may drop one or two courses out of the registered ones on advice from the Faculty Advisor, provided the minimum credit requirements (18 credits) is fulfilled. The last date for such drops is typically three weeks after the commencement of the semester, and is set in the Academic Calendar.

Course(s) dropped by a student may be taken during a subsequent semester or during the summer term (if offered).

3.8 Dropping of a Semester

- 1. A student may opt/be advised to drop an entire semester, with prior approval of UGAPEC due to the following reasons:
 - i. During a registered semester, if a student finds that s/he is unable to cope with the studies and/or does not have sufficient exposure to most of the courses registered in that

semester due to severe health problem or some other valid reasons beyond her/his control, s/he can opt to drop the entire semester, on advice from the Faculty Advisor and with permission from the UGAPEC.

- ii. A student may seek a semester drop, due to severe personal health problem, unavoidable family commitments or other valid reasons beyond her/his control, on advice from the Faculty Advisor and with permission from the UGAPEC, prior to the commencement of the semester itself.
- iii. A student wants to work in an industry, an enterprise or a social service organization to gain valuable work experience.
- In all cases of severe health problems, medical certificate issued by Medical officer IIT Dharwad is essential. If, however, the medical certificate is issued by other hospitals/private practitioners, the certificates should be duly authenticated by the Medical Officer, IIT Dharwad. In all other cases, requests for dropping the semester should be accompanied by supporting documents as required.
- 3. A student will be not permitted to drop a semester after the award of DX/II grade(s) and/or endsemester examination.
- 4. If a student drops the semester after commencement of the semester, the fees paid will not be refunded and/or adjusted in the subsequent semester. If the student drops the semester prior to the commencement of the semester, s/he has to pay a semester continuation fee prescribed from time to time.
- 5. Such break from studies is normally not permitted for a continuous period in excess of one year.
- 6. Not registering for any semester before the last date for registration without prior approval of the UGAPEC will result in the UGAPEC recommending termination of the studentship.
- 7. Hostel accommodation and other institutional facilities will not be extended in any semester for which the student has not registered.

3.9 Role of the Faculty Advisor in Registration

On joining the Institute, each student is assigned a Faculty Advisor. The students are expected to consult the Faculty Advisor on any matter relating to their academic performance and the courses they may take in various semesters / summer terms. The idea of a Faculty Advisor has been evolved to extend guidance to the students enabling them to complete their courses of study for the required degree in a smooth and satisfactory manner. With the introduction of the opportunities for additional academic accomplishments, planning of an individual's academic journey needs careful consideration, and regular consultation with the Faculty Advisors is imperative. Thus, the role of the Faculty Advisor is of immense importance. The Faculty Advisor is the person whom the parents/guardians should contact for performance related issues of their ward.

3.10 Classification of HSS elective courses

The courses offered by the HSS department can broadly be classified as core (such as HS 101: Economics and HS 102: Introduction to Fine Arts) and electives (everything else). All HSS electives are further categorized in two baskets, and students are required to register for at least one course from each basket during the entire tenue of one's B.Tech. program.

The current composition of the baskets is as follows, which may be revised from time to time.

Table 3: Classification of HSS electives

| Basket 1 | Basket 2 |
|-------------------------------------|-----------------------------------|
| Introduction to Literature (HS 303) | Modernism and its Heroes (HS 302) |
| | |

| Philosophy (HS 301) | Intellectual Property Management (HS 304) | | |
|-----------------------------|--|--|--|
| Introduction to Linguistics | Basics of Accounting & Financial Management (HS 401) | | |
| Psychology | Technological Entrepreneurship (HS 402) | | |
| Sociology | Applied Ethics (HS 404) | | |
| | Introduction to Game Theory (HS 406) | | |
| | Principles of Finance: Instruments & Investment | | |
| | Macroeconomics | | |
| | Happiness and Well-being | | |
| | | | |

4. Special features in registration

The curriculum has special features that a student must be aware of while registering for courses. These include institute core courses, department core and elective courses, non- departmental courses options. Registration for courses depend on the academic standing of the student, as explained in this section. The registration for backlog courses and audit courses are also explained in this section.

4.1 Academic Standing

Depending on the overall academic performance of a student till date, especially in the two preceding regular semesters (Autumn and Spring) registered, academic standing of the student is decided. Here, failed courses refer to courses in which a FR or a DX grade has been awarded. A NP (not passed) grade is not counted towards failed courses in the context of determining the academic standing.

Categorization of the academic standing of a student is as follows:

| Category I | Excellent Standing | A student who has no backlog courses (failed courses which have not been cleared subsequently or dropped courses), and has a CPI equal to or greater than 8.0, subject to having cleared the total number of credits prescribed up to that semester in his/her discipline. |
|--------------|--------------------------|---|
| Category II | Satisfactory Standing | A student who has registered for at least 18 credits in each of the two preceding regular registered semesters and not failed in any course in these two semesters. |
| Category III | - | A student who has not failed in more than one course in the two preceding regular registered semesters, subject to having earned at least 18 credits in each of the semesters. |
| Category IV | - | A student who has failed in more than one course in the two preceding regular registered semesters, but has earned at least 18 credits in each of the semesters. |
| Category V | - | A student who has not earned at least 18 credits in either one of the previous two regular registered semesters. |

Table 4: Types of Academic Standing

Only students of standing of Category I, II or III are permitted to register for normal load, while Category IV and Category V students should register for lower credits, as described next.

The total requirement of credits for the B. Tech. depends on the discipline. The average **prescribed load** per semester is around 36 credits.

4.2 Normal Load

In the first semester of the first year, the normal semester load is 34 or 39 credits. Every student registers for the prescribed load.

In the second semester of the first year, Category V students will register for reduced load as advised by the Faculty Advisor.

In subsequent semesters, every student must register for a minimum of 18 credits each semester. In case a student with backlogs has completed most of the minimum credit requirements, s/he may register for the remaining courses which are available in that semester, which may be less than 18 credits.

In these semesters, normal load for a B.Tech. student is defined as the prescribed load for the minimum requirement of the degree for that semester and credits for an additional course (6-8 credits), subject to

• total credit not exceeding 42 credits (44 credits in case the additional course is of 8 credits), and no more than six theory courses.

For example, the prescribed load in semester 3 for a particular discipline may be 33 credits. The normal load for that discipline in the semester is 39-41. This load is calculated by adding the prescribed load and credits for an additional course (6 or 8 credits). The normal loads for other semesters are to be computed along similar lines. Students with academic standing of Category I, II or III are permitted to take normal load.

Those with excellent academic standing (Category I) can, in addition, overload themselves to the extent of one theory course equivalent (6 or 8 credits). That is, they can register for two courses in addition to the prescribed load, subject to

- total credit not exceeding 48 credits (50 credits in case the additional course is of 8 credits), and
- no more than six theory courses.

Students belonging to excellent (Category I) and satisfactory academic standing (Category II) therefore can reasonably aspire to utilize the additional learning opportunities to the fullest extent.

Category III students should use the additional course permitted to clear the backlog courses if available in the semester. If backlog courses are not available, they can also use the opportunity for additional learning in that semester.

Students belonging to Category IV and V can only register for reduced loads as described in the following sub-section.

4.3 Reduced Load for Category IV and Category V Students

B.Tech. students belonging to category IV status can only register for a total of credits equivalent to the prescribed load for that semester in her/his discipline (X_j in Table 5). This normally would mean four theory courses and one or two labs. etc. They cannot register for the additional 6-8 credits permitted for students with Category I, II and III standing.

Students belonging to category V status can only register for those many credits which are at least one theory course equivalent less than the credits prescribed for that semester in her/ his discipline, subject to a minimum of 18 credits. This normally would mean three theory courses and one or two labs. etc.

All students in Category V should submit a revised schedule along with the course registration form, in consultation with the Faculty Advisor, for the succeeding semesters / summer terms stating how the backlog courses will be cleared.

Students have to register for the backlog courses before registering for other courses, if those courses are available in that semester. However, Faculty Advisor can recommend exceptions to avoid cascading effects due to prerequisites for other courses.

4.4 Overloading of Courses

Student with Excellent Academic Standing (Category I) may be permitted to take one course per semester, in addition to the normal load, as overload, subject to a maximum of 6 theory courses. There shall be no relaxation of the CPI criterion for the additional overload. A change of status from Credit to Audit in respect of such courses may be allowed up to the mid-semester examination with the prior approval of the UGAPEC. Overloading of courses is subject to time-table constraints.

Since this overloading can lead to poor overall performance in terms of SPI, CPI etc., this should be done after careful consideration and discussion with the Faculty Advisor.

A summary of normal load for B.Tech. students in different semesters is given below. The symbol X_j denotes the credits prescribed for the semester j, $3 \le j \le 10$ in her/his branch; and C is the maximum credits assigned to any course.

| Semester | 1 | 2 | 3 to 10 |
|----------------------------|----|--------------------------------|--------------------------------|
| Reduced load | 34 | 34, less one theory course | X_i , less one theory course |
| (Category V) | | | |
| Prescribed load | 34 | 34 | X _i |
| (For Category I,II,III,IV) | | | - |
| Normal load | 34 | 34 (41 or 42 Only for Cat. III | $X_i + C$ |
| (For Category I,II,III,IV) | | and IV for clearing backlog) | |
| Overload | 34 | 34 | $X_i + 2C$ |
| (Category I only) | | | 2 |

| Table 5: Permissible academic | loads for B.Tech. | students of various | academic standina |
|-------------------------------|-------------------|---------------------|--------------------|
| | 10445 joi D.10011 | staachts of vanoas | acaacinic standing |

4.6 Audit Courses

A student wanting just an exposure to a course, without the rigors of obtaining a good grade 'audits' a course. The minimum requirement is normally 80% attendance, with any additional requirements as set by the instructor such as submission of assignments and minimum performance in some of the in-sem evaluations. The grade awarded is 'AU' which does not carry any grade points and therefore does not figure in SPI/CPI calculations. However, this would be restricted to a maximum of two (2) courses in the entire period of the programme. Auditing of courses during regular semesters and summer term is permitted under the following conditions:

- i. Students in Category I and II with CPI > 6.0 will be permitted to 'Audit' a course. A course can be audited provided the course is offered in the semester as a credit course for others, and there is no slot clash. Prior permission of the Instructor is required.
- ii. The students have to enter the courses to be audited in the Course Registration Form while registering for the semester. The course will not carry any credits. The word "Audit" would be specially mentioned in the remarks column of the student's course registration form.
- iii. The 'AU' grade would be awarded by the instructor, if the attendance is satisfactory and additional requirements as set out by the instructor are met. If the attendance and performance is not satisfactory, the course would not be mentioned in the transcript.
- iv. The course successfully completed in Audit mode will be reflected in the Semester Grade Report and the Transcript as Audit Course.

4.7 Guided Study

Guided Study is doing courses outside the curriculum in the self-study like mode, during a regular semester. A student belonging to Category I may be provided the option of Guided study to acquire proficiency in an area of his/her choice, on recommendation of the Faculty Advisor / project supervisor, UGAPEC. Guided Study will be available to the extent of a maximum of one course per semester with effect from the third semester, subject to a maximum of four courses in the entire programme. This option is strictly subject to the availability and willingness of the instructor offering the course. Rules that govern overloading apply strictly even for these courses. Registration, Examination / Evaluation and submission of grade etc. in case of guided study will also be governed in the similar way as other courses of the curriculum.

Courses with less than six registered students will be offered as a guided study/supervised learning/selfstudy course.

4.8 Course Substitution

In case a student obtains FR/DX grades or drops courses due to valid reason, s/he may like to substitute courses in order to complete the requirements within the stipulated duration. Following is the guideline for course substitution:

- i. Course substitution is not permitted for Core Courses; may it be an institute core course or departmental core course. The student has to re-register the same course and complete.
- ii. An elective course may be substituted by another elective course from the same group/basket.

5. Examination/Assessment

Semester-wise performance assessment of every registered student is done through various modes of examinations. These include quizzes, class tests, home assignments, group assignments, projects, viva-voce, mid-semester examination and end-semester examination. The Instructor will announce the modes of evaluation and distribution of weightage for each of the assessments at the beginning of the course.

Various modes of assessment for theory and laboratory courses along with the recommended relative weightage of various components are given in this section. A large departure from the recommended modes of assessments and weightage will require prior approval from the Dean of Academic Programmes.

5.1 Attendance

Attendance in the class is compulsory and is monitored. The Institute expects 100% attendance. However, due to ill-health or other emergency situations, absence up to 20% is considered on a case-to-case basis on production of documentary proof. A student not having 80% attendance is debarred from appearing in the end-semester examination and given a "DX" grade. Students with DX grade in core course(s) are required to re-register for the same course in subsequent semesters / summer terms. The attendance requirement is applicable to summer courses too.

Permission for leave of absence from course instructors to be taken (keeping the Faculty Advisor and HoD informed) and the means of covering the lost classes need to be defined. Faculty advisor remains the final authority, who will coordinate and convey these adjustments to the Academic Office for records.

Students may wish to stay off campus (particularly 7th and 8th semesters) for a variety of reasons, such as: (a) completed their credit requirements and/or not registered for any coursework in that semester (b) opted to be off campus for approved academic reasons (Co-op BTP, internship, training etc.). Regardless of the reason for their not being on campus, all such students need to obtain a No-Objection Certificate (NOC) from the Academic Office. They may not be off campus without a properly justified NOC.

5.2 Modes of Evaluation for Theory Courses

Various modes of assessment used for rating students' performance in a theory course include quizzes, class tests, home assignments, group assignments, projects, viva-voce, mid-semester test and end-semester examination. Relative weightage for in-semester evaluations is typically between 50% and 60%. This will consist of one mid-semester test of two hours duration, of about 25%-30% weightage, to be held as per the schedule fixed in the Academic Calendar. Two quizzes or one quiz and one test along with assignments and viva-voce shall make up the rest of the in-semester assessment. The Instructor may also set aside up to a maximum of 10% of the in-semester marks for active participation in the class and the initiatives shown by the student. Make-up for any absence from in-semester evaluations like midsem/tests/quizzes will be at the discretion of the Instructor. Instructor needs to be convinced that the reasons for absence are genuine.

The end-semester examination will be held as per the Academic Calendar and the relative weightage for this would be 40% to 50%. It is normally of 3 hours duration and will cover the full syllabus of the course. The end-semester examination is mandatory. The instructor awards an "II" grade for those students not appearing for the end-semester examination, if they have sufficient attendance and satisfactory insemester performance. Such students are eligible for a semester-end re-examination only on medical grounds/valid reasons, AND on production of medical certificate issued / authenticated by Medical Officer, IIT Dharwad, or other supporting documents as the case requires. The application must be submitted to the Academic Office before the last date for registration for such re-examination announced in the Academic Calendar.

5.3 Modes of Evaluation for Laboratory Courses

The assessment in a laboratory course will be based on turn-to-turn supervision of the student's work, her/his performance in viva-voce examinations and group discussions, the quality of their work as prescribed through laboratory journals and an end-semester test that contains an experiment and/or a written examination. In-semester work will normally carry 75% and the end-semester test 25% weightage respectively. It is obligatory to maintain a laboratory journal as prescribed by the course instructor. Final examination for laboratory courses will normally be held a week before the final theory examinations. In case of absence from end-semester examination, the same rule as those for theory courses is applicable.

5.4 Modes of Evaluation for Seminars

Seminars are evaluated based on a written report, and an oral presentation before a panel of examiners appointed by the Department. The supervisor/co-supervisor, when involved, are part of the panel. Grades carrying grade points are awarded as in the case of theory and laboratory courses based on the quality of the report and performance in the presentation. The evaluation of the seminars is completed and the grades submitted to the academic office before the commencement of the end-semester examination.

5.5 Modes of Evaluation for Projects

B.Tech. project is not an Institute requirement. However, some departments may make it as the department requirement for the degree. As the case may be, the separate modes of assessment are mentioned hereunder.

5.5.1 B.Tech./Co-op Project

B.Tech. Project may be offered as one unit as BTP, or two independent units as BTP-I and BTP-II. Wherever it is split into two units, BTP-II may build on BTP-I or can be an independent project. Departments may prescribe a minimum performance in BTP-I (which may be higher than the pass grade 'DD') for being eligible for BTP-II. BTP-I and BTP-II are separately graded, at the end of the respective semesters.

These projects are supervised, and need regular interaction (at least once a week) with the supervisor. Student has to submit a project report and defend it in front of a panel of examiners. The dates for submission of reports, the dates for presentations, and details of mode of assessment are decided by the individual departments. The grades are sent to the Academic office before the last date for submission of grades.

In case of irregularity of interactions, the supervisor may award a "DX" grade before the last date for submission of the report. An "II" grade may be awarded if the student misses the presentation. S/he is granted a second chance for presentation, if the basis for absence is deemed valid.

5.5.2 RnD Project

The evaluation of an RnD project follows the same norms as stated earlier for Seminars.

5.6 Non-credit requirements

Non-credit requirements are assessed as Pass (PP)/Not Pass (NP) subject to the fulfillment of the minimum requirements of these activities and a minimum of 80% attendance. The award of degree is subject to successful completion of these activities.

5.6.1 NSO/NSS

A student will be awarded PP (Pass) grade for any one of these activities s/he is registered for, in that semester, provided the minimum requirement is met during that semester together with attendance criteria. Not satisfying these requirements will result in a fail grade NP (Not Pass), and the student has to re-register for the activity in the next semester. The grades are sent to the academic office before the

commencement of the end-semester examination. The award of the degree is subject to the successful completion of NSO/NSS.

5.7 Grading

i. IIT Dharwad follows grading system. Based on the combined performance in all assessments, the student is awarded a letter grade in every course taken by him/her in a particular semester as per the curriculum. These letter grades not only indicate a qualitative assessment of the student's performance but also carry a quantitative (numeric) equivalent called the Grade Point. The letter grades and their equivalent grade point are given below:

| Letter Grade | Grade Point | | | |
|-----------------|--|--|--|--|
| АР | 10 (Grade is awarded to students with exceptional performance) | | | |
| AA | 10 | | | |
| AB | 9 | | | |
| BB | 8 | | | |
| BC | 7 | | | |
| СС | 6 | | | |
| CD | 5 | | | |
| DD | 4 | | | |
| FR | 0 (Fail-Repeat the course) | | | |
| DX | 0 (Attendance below 80% - Repeat the course) | | | |
| РР | Pass | | | |
| NP | Not Passed | | | |
| AU | Audit | | | |
| 11 | Incomplete (place holder, awarded on medical grounds; gets converted to an appropriate grade after end-semester re- examination, else automatically converted to "FR" before subsequent semester) | | | |
| DR ¹ | Dropped | | | |

| Table | 6: | List | of | Letter | Grades |
|--------|----|------|----------|--------|--------|
| , abic | ۰. | 2150 | <i>v</i> | LCLLCI | 0/4405 |

A student passes the course if s/he gets any grade in the range of "AP" to "DD" ("AU" in the case of an audit course, but fails if s/he gets the grade "FR" and/or "DX". "II" and "DR" are place holders. "II" is awarded temporarily on medical grounds and gets converted to an appropriate grade after the end-semester re-examination, whereas "DR" indicates that the course has been dropped and it has to be cleared in subsequent semesters / summer terms, in case of core courses.

- ii. The grade "AP" indicates exceptional performance and is awarded only in the Course/(s) in which the number of registered students is more than 50. It should not exceed 2% of the total strength of the particular theory or lab course. The grade "AP" is not awarded for projects / seminars.
- iii. "FR" grade will be awarded in case/(s) where, in the opinion of the instructor (panel of examiners in the case of projects), the student has very poor performance in the in-semester and/or end-

¹ DR is not a grade but only a position holder indicating that the course has been dropped and it has to be cleared in subsequent semesters / summer terms.

semester examinations. "FR" can also be awarded any time during the semester for any kind of academic malpractices. In such cases the course instructor will immediately report along with the award of "FR" grade to the Dean of Academic Programmes through UGAPEC. The Dean (AP) may refer the matter to the Disciplinary Action Committee (DAC) for further action, if needed.

- iv. The grade "DX" in a course is awarded if (i) a student does not maintain the minimum 80% attendance in the Lecture/Tutorial classes, or (ii) severely incomplete in-semester evaluation record due to non-medical reasons (for example when a student has missed all tests and midsem), (iii) incomplete assignment submissions etc. The DX grade will be declared one week before end-semester examination and intimated to the Academic Office immediately thereafter. A student with "DX" grade in a given course is not permitted to take the end-semester examination. The "DX" grade is treated as "FR" for the purpose of CPI calculation, and requires re-registration for the course in subsequent semesters / summer terms.
- v. 'II' is awarded in a lecture/laboratory course if a student has satisfactory in-semester performance and has fulfilled the 80% attendance requirement, but has not appeared for the end-semester examination due to medical reasons. Such students are eligible for an end-semester reexamination only on medical grounds / valid reasons AND on production of medical certificate issued / authenticated by Medical Officer, IIT Dharwad or other supporting documents as required. The application must be submitted to the Academic Office, for consideration by UGAPEC, before the last date for registration for such re-examination announced in the Academic Calendar. For a student present in the end-semester re-examination, the instructor will award a regular performance grade (AP-FR) depending on the overall performance in the course including the re-examination. If a student fails to appear for the re-examination too, the instructor will award "II" grade again. If the absence is due to medical / valid reasons, the student must submit supporting documents as mentioned above, within seven days of the scheduled date of the reexamination, to the Academic Office. UGAPEC will examine such cases and convert the "II" grade into a dropped course status ("DR") in bonafide cases. In all other cases the "II" grade will be converted to "FR" grade. In any case, the "II" grade will not be continued beyond the commencement of the subsequent semester.
- vi. There are, however, a few other academic requirements for the programmes. The following two grades viz., "PP" (Pass) and "NP" (Not pass), will be awarded for some courses like NSO/NSS. No grade points are associated with these grades and performance in these courses is not taken into account in the calculation of the performance indices (SPI, CPI). However, the award of the degree is subject to obtaining a "PP" (Pass) grade in all such courses. A student will be awarded "PP" (Pass) / "NP" (Not Pass) grade for NSO/NSS in each semester provided the minimum requirement of these activities are met during that semester together with 80% minimum attendance, failing which the "NP" (Not Pass) grade will be awarded.
- vii. 'AU' grades are awarded for those who have audited a course, and acquired adequate exposure to the contents. No grade points are associated with this grade. It has no implication on CPI/ SPI. No grade is awarded in case of insufficient exposure to the contents of the course.

5.8 Valid Reasons for End-semester Re-examination

Following may be considered as valid reasons for end-semester re-examination:

- 1. Serious Illness / personal accident in the case of the student herself/himself
- 2. Serious illness / Accident / Death of parent / guardian
- 3. Logistic problems such as non-availability of resources / laboratory facilities / availability of examiner(s) for project/seminars, etc.

Students requesting end-semester re-examination (evaluation in the case of projects) on the above valid reasons are required to make suitable application to the UGAPEC (through respective instructors and Faculty advisors) before the prescribed last date for registration for such re-examination announced in the Academic Calendar, through proper channel along with proper medical certificate issued / authenticated by Medical Officer, IIT Dharwad. In the event of death and / or serious illness / accident of parent or guardian, the application should be supported by appropriate documents. Decision of the UGAPEC Convener is final in these matters.

5.9 Academic Malpractice

Academic malpractices are severely dealt with in IIT Dharwad. In case of malpractice during any of the valuations like assignments, quizzes, tests, and examinations, the instructor/invigilator has to bring the incident to the notice of the Disciplinary Action Committee (DAC), which would appropriately take disciplinary action.

Disciplinary actions are decided depending on the severity of the act of malpractice, and may attract a disciplinary action of up to a DX/FR grade. Disciplinary actions for various academic malpractices are given below.

- 1. Impersonation/Forging signatures, etc.
 - 1.1. Proxy in attendance/signing for another student/leaving the class after marking attendance
 - A DX grade is awarded to the student who is caught signing for another student in a course.
 - If a student is found missing at the end of the class after having given attendance, a warning is issued by the instructor. If a second violation is detected, an FR grade is awarded to the student.
 - 1.2. Impersonation of a student during exams
 - The disciplinary action taken against a student who impersonates another student during exams is suspension for one semester.
 - 1.3. Tampering with official documents like grade sheets, medical certificates etc.
 - An FR grade is awarded to the student registered for the course and the student is suspended for one semester.
 - 1.4. Forging signatures of faculty/staff
 - The disciplinary action taken against a student found forging signatures of faculty/staff is suspension for one year.
- 2. Copying in home assignments, programming assignments and laboratory projects
 - 2.1. A student found copying in an assignment/laboratory project is given a zero in the assignment/project and is further given a one grade penalty.
 - 2.2. The same disciplinary action is taken against both the person copying and the person from whom the material was copied. If it is found that the person who copied obtained the material through nefarious means like hacking, etc., the person from whom the material was copied may not be punished.
- 3. Copying in Examinations
 - 3.1. Communicating with other students during exams
 - If a student is found verbally communicating with another student during the examination, in the absence of any other evidence except a signed note from the invigilator, the penalty is loss of one grade.
 - If, however there is other evidence, like identical answers in the answer books, then the penalty is an FR grade.

- If a student is found passing chits/supplements/other unauthorized material to other students the penalty is an FR grade.
- 3.2. Carrying unauthorized material during exams
 - If a mobile phone is found in the possession of a student after the exam has begun, the penalty is loss of one grade.
 - If a student is found using a mobile phone during the exam the penalty is an FR grade.
 - If a student is found carrying unauthorized material like chits, electronic gadgets like tablets, calculators etc. (other than mobiles), using prohibited facilities like the internet etc., or is found with scribbling on one's body, the penalty is an FR grade. Detection of such material with the student is enough to attract the penalty.
- 3.3. Detection of copying during evaluation of answer scripts
 - If during evaluation of answer scripts of an exam, it is detected that a student A has copied from another student B, the disciplinary action taken against both the students is an FR grade.
- 3.4. Making changes in valued answer books
 - If it is found that a student has made changes in valued answer books, the student is assigned an FR grade.
- 3.5. Communicating with others during toilet breaks during exams
 - The disciplinary action taken against a student who is found using a mobile phone, chits, books and other unauthorized material during toilet breaks, while the exam is in progress, is an FR grade and suspension for one semester.
- 4. Repeat Offences
 - 4.1. The disciplinary action taken against repeat offenders is suspension for one semester.
- 5. Plagiarism in Internal Reports
 - Reproducing material from sources like the web, texts, etc., without proper citations in seminar and project reports.
 - Penalties for reproducing material in seminar reports without proper citation range from a warning (in case the mistake was unintentional) to loss of two grades in the Seminar. For project reports, the minimum penalty is loss of one grade and the maximum penalty is an FR grade.
 - In more serious cases, like deliberately claiming false results on experiments, falsely claiming original content in a MS/Ph.D. thesis, the case should be referred to the DAC and the minimum penalty is suspension for a period of one year.
 - In exceptional cases, the matter is referred to the UGAPEC and the registration may be terminated, with or without an exit degree depending on the severity of the act. For the Ph.D. thesis, if the charges are proved, it may forward the matter to the apex committee which may recommend withdrawal of the degree already awarded to the candidate.
- 6. Indiscipline by students serving as TAs
 - 6.1. If a TA is found aiding/abetting students in cheating (who he/she is TAing) by deliberately assigning in inflated marks, tampering with the mark sheet/answer books, etc., the disciplinary action taken is suspension for one semester. No stipend is given during this period.

Disciplinary action on any academic malpractice beyond the scope of the above items, will be adjudged by the DAC on a case-to-case basis.

5.10 SPI/CPI

5.10.1 Semester Performance Index (SPI)

The performance of a student in a semester is indicated by a number called Semester Performance Index, SPI. The SPI is the weighted average of the grade points obtained in all the courses registered by the student during the semester. For example, if a student passes five courses (Theory/laboratory courses/Projects/Seminar/... in a semester with credits C_1 , C_2 , C_3 , C_4 and C_5 and her/his grade points in these courses are g_1 , g_2 , g_3 , g_4 and g_5 , respectively, then her/his SPI is equal to:

$$SPI = \frac{C_1g_1 + C_2g_2 + C_3g_3 + C_4g_4 + C_5g_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

The SPI is calculated to two decimal places. The SPI for any semester will take into consideration the FR/DX grades awarded in that semester. For example, if a student has failed in course 4, the SPI will then be computed as:

$$SPI = \frac{C_1g_1 + C_2g_2 + C_3g_3 + C_4 \times 0 + C_5g_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

The courses which do not form the minimum requirement of the degrees will not be considered for calculation of the SPI. Such additional courses undertaken and the grades earned by the student will be shown separately.

5.10.2 Cumulative Performance Index (CPI)

An up-to-date assessment of the overall performance of a student from the time s/he entered the Institute is obtained by calculating a number called the Cumulative Performance Index, CPI, in a manner similar to the calculation of SPI. The CPI therefore considers all the courses registered by the student, towards the minimum requirement of the degree s/he has enrolled for, since s/he entered the Institute. The CPI is calculated at the end of every semester to two decimal places and is indicated in semester grade reports.

The CPI will reflect the failed status in case of FR/DX grade(s), till the course(s) is/are cleared. When the course(s) is/are cleared by obtaining a pass grade on subsequent registration(s) the CPI will only reflect the new grade and not the fail grades earned earlier.

Example: Up to semester r a student has registered for n courses, among which s/he has a "FR" grade in course i. The semester grade report at the end of semester r therefore will contain a CPI calculated as:

$$CPI = \frac{C_1g_1 + C_2g_2 + C_3g_3 + \dots + C_i \times 0 + \dots + C_ng_n}{C_1 + C_2 + C_3 + \dots + C_i + \dots + C_n}$$

Even if a student has failed in a course more than once, the course will figure only once in the numerator as well as the denominator.

At the end of semester r + 1, s/he has registered for more courses including the backlog course i and has cleared all the courses including the backlog course, the CPI at the end of this semester is calculated as

$$CPI = \frac{C_1g_1 + C_2g_2 + C_3g_3 + \dots + C_i \times g_i + \dots + C_ng_n}{C_1 + C_2 + C_3 + \dots + C_i + \dots + C_n}$$

The courses which do not form the minimum requirement of the degrees will not be considered for calculation of the basic CPI. These courses will be shown separately, and a separate CPI will be calculated

for these courses. There will also be a combined CPI calculated which considers all the credits earned by the student.

5.10.3 Semester Grade Report

At the end of each semester, the semester grade report, which reflects the performance of the student in that semester, is prepared. This report includes the fail grades as awarded. Four copies of this report are prepared and the Student's copy and the Faculty Advisor's copy is sent to the respective Faculty Advisors for their information and disbursement of the Student's copy to the concerned student. The parent copy of the grade report will be dispatched to their respective address by the Academic Office. The office copy of the grade report will be retained by the Academic office for their record. The semester grade report for those students with "II" grade is prepared only after the "II" grade is converted to a suitable grade, after the end-semester re-examination.

Even when a failed course is cleared in a later semester, no new modified grade report for that semester in which the fail grade was awarded will be issued.

The results (i.e., grades) for all the half semester courses running in the first semester of the B.Tech. program, will be announced ONLY at the end of that semester.

5.10.4 Transcript: Consolidated Statement of Academic Performance

Transcript is the consolidated statement of the Academic Performance of a student for all the semesters since joining the programme and is given to a student on successful completion of the programme along with the degree certificate. For those students who have taken multiple attempts to clear a course, the transcript given on successful completion of the programme will only contain earned pass grade (AP-DD, PP); the course will however be shown in the semester in which the student has finally cleared the course. The transcript will show only the overall CPI based on all the courses taken by the student. Additional courses will be shown separately, indicating also the minor / honors, if any, earned by the student. Additional copies of the transcript can be obtained if needed, on request and upon payment of applicable fee.

Students who have not yet completed the programme can obtain an Interim Transcript, if needed, on request and upon payment of applicable fee. The Interim Transcript includes failed courses, which have not been cleared at the time of issue.

5.11 Display of In-semester Performance

- i. In-semester performance of all students is communicated by the instructor to the students before the end-semester examination. Those awarded "DX" grades will be clearly identified in this list.
- ii. Based on the in-semester performance, the instructor may also decide and publish a cut-off (based on the average performance of the class), below which the in-semester performance is considered 'Unsatisfactory'. This will be the basis on which an instructor may declare a "FR" grade even when a student is absent for the end-semester examination on valid grounds.

5.12 Disclosing the Evaluated Answer scripts after End-semester Examination

A course instructor will allow students to see the evaluated answer scripts before finalization of grades. The dates fixed for such a disclosure is as per the academic calendar.

5.13 Answer-Script Retention period

Evaluated answer scripts are preserved by the Instructor/ Departmental Office for one semester.

5.14 Re-totaling of marks

Sufficient precaution is taken while evaluation of answer scripts. There is no provision of re- evaluation of evaluated answer scripts. However, there is a provision for requesting a re-totaling of marks in the evaluated answer scripts on payment of Rs. 500/- per course. Such requests will be processed by the Academic Office. Once grades are published, changes if any, will be allowed in case of totaling and tabulation errors only. A request for re-totaling must be made by the student to Academic Office using the prescribed form, which will be sent to the instructor for further action. Student must not contact the instructor directly.

6. Change of Branch/Programme

After successful completion of the first semester, students can apply for change of branch / programme, subject to the fulfilment of the following conditions.

6.1 Rules for Change of Branch

Rules/guidelines governing change of branch/programme are given below.

Students are eligible to apply for a change of branch/Programme after completing the first semester and before the start of the second semester. All branch transfers can be effected only once at the beginning of the second semester. No application for change of branch during the subsequent academic years will be entertained.

- 1. The Eligibility Criteria for applying for a change of branch/Programme are:
 - a. completion of the prescribed course credits in the first semester
 - b. no backlog at the end of the first semester
- 2. Before beginning the allocation, additional seats are made available in each branch, limited to a maximum of 20% of its sanctioned strength.
- 3. While students are allotted seats of general and reserved type during admission, this data is not used during branch change. Each available seat may be occupied by students of any category.
- 4. An eligible student's request for a shift from branch *A* to branch *B* will be considered valid if the following criteria are satisfied.
 - a. there is a seat available in Branch *B*
 - b. The strength in branch A, from which a change is being sought, does not fall below its sanctioned strength by more than 20%.

6.2 Procedure

Among all valid requests, a student with the highest CPI is chosen and change of branch / programme is performed. The process is continued till the seats are filled or all valid applications are considered. In case of a tie, the person with higher JEE (Advanced) rank will be given the allotment.

7. Performance Requirements

7.1 Award of Degree

On successful completion of the prescribed requirements for a programme (B.Tech.) the required degree will be conferred on a student in an annual convocation of the Institute.

The degree certificate will indicate the relevant branch, and specializations if any, in the engineering or science discipline in which the student has graduated. For example: 'Bachelor of Technology in Mechanical Engineering,' or 'Bachelor of Technology in Electrical Engineering'.

Along with the degree certificate, the student will be given a transcript, giving semester-wise details of all academic accomplishments. An overall CPI for all the academic work done by the student will be given.

For conferment of degree, student has to fulfill the following requirements.

- a) The student should have taken and passed all the courses prescribed for the degree under the general institutional and departmental requirements.
- b) The student should have satisfactorily fulfilled other academic requirements like practical training, NSS/NSO, work visits, seminar and projects, as specified for the discipline
- c) The student should have paid all the Institute dues.
- d) The student should have no case of indiscipline pending against him/her.

The transcript and the final degree certificate will not mention any class whatsoever; only the CPI/s will be given in the transcript. CPI of 6.5 or above may be considered as a first class.

Completion of Minor/Honors requirements will be mentioned in the degree certificate and transcript.

7.2 Award of Medals

Various medals are awarded to the outstanding students every year from amongst the graduates who receive their degree at the annual convocation of the Institute. For consideration of medals, the overall CPI calculated including the additional courses taken by the student will be considered. In case of a tie, a student who has earned the honors will be preferred.

The **President of India Medal** and the **Institute Gold Medal** is awarded to the most outstanding student in the Undergraduate programme (B.Tech.). Conditions and Procedures as approved by the Senate from time to time apply.

The **Institute Silver Medal** is awarded to the most outstanding graduate in each branch of Engineering and Science other than the one(s) to whom the President of India Medal and the Institute Gold Medal are awarded.

Only such students who have completed the B.Tech programme without under-loading in any semester or failing in any credit carrying course required for the degree are considered eligible for the award of medals. Here under-loading implies registering for number of credits which is less than that prescribed by the department for the particular semester.

7.3 Award of Cash Prizes

Several cash prize awards exist for undergraduate girl students of IIT Dharwad.

1. Om Prakash Goyal & Sevati Devi Goyal Award

- a. Presented at the Institute Convocation
- b. Given to the academically best girl student (highest CPI)

- c. Consists of a certificate and cash prize of Rs. 25,000/-
- d. In case the academically best girl is overall topper of the whole batch and the recipient of the President's Gold Medal, the award should be given to the next best (based on CPI) girl student, as a token of encouragement.

2. Dr. Bishweshwar Dayal and Prakashwati Dayal Award

- a. Presented at Institute Foundation Day function
- b. Given to the girl student with the best overall performance at the end of 4th Semester of B.Tech.
- c. Consists of a certificate and cash prize of Rs. 35,000/-.
- d. The following weightages are considered for various activities as a part of the criteria:
 - i. 25% weightage to academics, determined by the CPI
 - ii. 15% weightage to Social Service carried out by the student
 - iii. 10% weightage to awards by DST/SERB/MHRD, for example in Hackathons
 - iv. 10% weightage to papers/ patents as determined by the departments about the genuinety
 - v. 10% weightage to winning a medal in inter-IIT Sports or cultural event
 - vi. 10% weightage to leadership
 - vii. 10% weightage to participation in cultural events, activities involving dance, music, dramatics, paintings and fine arts, etc.
 - viii. 10% weightage on participation in Inter-IIT sports and/or any other state or national level sport or Hackathon events

3. Smt. P. Susheela and Prof. P. Venugopala Rao Award presented to one girl student each with the best overall performance at the end of the 2nd and 4th semesters, respectively.

- a. Presented at Institute Foundation Day function
- b. Consists of a certificate and cash prize of Rs. 35,000/- each
- c. The overall performance criteria will consider academic performance, co-curricular and extra-curricular activities

7.4 Early Termination

Given that some of the best talents in the country take admission at this Institute, it is expected that all of them perform very well, and fully utilize the various opportunities provided for their academic advancement. However, in a few cases, students are unable to cope with the studies here. This may often be due to a lack of aptitude or a mismatch between the student's interest and what the programmes provide. Early recognition of this tendency permits corrective action to be taken in time, and the students to pursue their careers elsewhere. UGAPEC, therefore, will recommend early termination of studentship in the following situations:

- 1. During the first and second years
 - Students having five or more FR and/or DX grades at the end of each semester (after taking into account the grades obtained in the end-semester re-examination, if applicable)
- 2. During the third and subsequent years
 - Students having seven or more FR and/or DX grades, at the end of each semester (after taking into account the grades obtained in the end-semester re-examination, if applicable)

8. Miscellaneous

8.1 Helping Weaker Students

The students with backlogs are required to register manually. This will require them to meet and discuss their performance with the Faculty Advisor. The students with backlogs should continuously seek help from the Faculty Advisor, the student counsellor, the student mentors, and the UGAPEC and keep their parents/guardians informed about their performance. At the end of each semester, the Institute will also send semester grade report of the students' / warning letter for poor performance etc. as directed by the UGAPEC (if required) to their parents/guardians by ordinary post. It is expected that the parents/guardians, especially in the case of students with backlogs, stay in constant touch with the Faculty Advisors and if necessary, the student counselor, and keep themselves abreast of their wards' progress.

8.2 Faculty Advisor

On joining the Institute, each student is assigned a Faculty Advisor (FA). The students are expected to consult the Faculty Advisor on any matter relating to their academic performance and the courses they may take in various semesters. The idea of a Faculty Advisor has been evolved to extend guidance to the students enabling them to complete their courses of study for the required degree in a smooth and satisfactory manner. For effective utilization of the opportunities for additional academic accomplishments, planning of the individual's academic journey needs careful consideration, and regular consultation with the Faculty Advisor is imperative. Thus, the role of the Faculty Advisor is of immense importance. The Faculty Advisor is the person whom the parents/guardians should contact for performance related issues of their ward.

The role of the Faculty Advisor is outlined below:

- 1. Guide the students about the rules and regulations governing the courses of study for a particular degree.
- 2. Advise the students for registering courses as per curriculum given or otherwise within the scope of the rules and regulations set by the Senate from time to time. For this purpose, the Faculty Advisor has to discuss with the student his/her academic performance during the previous semester and then decide the number and nature of the courses for which s/he can register during the semester as per the curriculum.
- 3. Approve the registration of the students. Student without any backlog will do online registration. Faculty Advisor has to approve the same. For this purpose, s/he has been provided online interface. Students having backlog courses has to register manually. Course Registration Form (CRF) of such students is provided to the Faculty Advisor through the Departmental office. The FA has to approve the CRF by signing on it, before the prescribed last date.
- 4. Advise students to overload / drop one or more courses/activities based on her/his academic performance as per the prescribed rules.
- 5. At the end of the first semester/year, the Faculty Advisor may even advise a reduced load programme for a poorly performing student. This reduced load programme may spread over several semesters subject to minimum load for the semester and completion of the degree programme within the prescribed maximum period. Such reduced load programme is to be prepared by the Faculty Advisor in consultation with the Student; her/his parent and recommend the same through the UGAPEC for consideration and approval before the commencement of the semester.
- 6. Pay special attention to weak students and carefully monitor performance of students recommended for slow track option.

- 7. Advise students for Course Adjustment / Dropping of courses during the Semester within the stipulated time frame given in the Academic calendar.
- 8. Advise students seeking semester drop either during the ongoing semester or before the commencement of the semester. FA has to ensure strict compliance of rules and regulations laid down for this purpose. Recommend the cases to the appropriate authorities for consideration.
- 9. Make revised plan of study for weak/bright students based on their semester-wise performance.
- 10. Suggest modalities for course/credit requirements for the students recommended for exchange programme.
- 11. Guidance and liaison with parents of students for their performance.
- 12. To ensure that students are not permitted to re-register for courses, which they have already passed.
- 13. Appraise students that any academic activity (course / Lab./ seminar / project / noncredit requirement etc.) undergone without proper registration will not be counted towards the requirements of his/her degree.
- 14. Strictly warn students that if s/he fails to register during any semester without prior approval, his/her studentship is liable to be cancelled.
- 15. Keep the students updated about the Academic Administration of the Institute.
- 16. Permission for a student's leave of absence from course instructors to be taken (keeping the Faculty Advisor and HoD informed) and the means of covering the lost classes need be defined. Faculty advisor remains the final authority and he/she will coordinate and convey these adjustments to the Academic Office for records.
- 17. Faculty advisors need to actively interact with the students and ensure their offline registration. Students may wish to stay off campus (particularly 7th and 8th semesters) for a variety of reasons. They may have any of the following reasons, to name a few: (a) completed their credit requirements and/or not registered for any coursework in that semester (b) opted to be off campus for approved academic reasons (Co-op BTP, internship, training etc.). Regardless of the reason for their not being on campus, all such students need to obtain a NOC from the Academic Office. They may not be off campus without a properly justified NOC.

9. Glossary

Table 7: Glossary

| | Tuble 7. Clossury | | | |
|----------------------------|---|--|--|--|
| Senate | The Senate is a statutory and supreme body that governs all academic matters of the Institute. The ruling of Chairman, Senate is final in regard to all academic matters. | | | |
| UGAPEC | Under Graduate Academic Performance Evaluation Committee | | | |
| CRF | Course Registration Form | | | |
| CAF | Course Adjustment Form | | | |
| FA | Faculty Advisor | | | |
| Semester | Two semesters in an academic year, approximately of 16 weeks' duration each, the first one (Autumn Semester) from the last week of July to last week of November and the second one (Spring Semester) from the first week of January to the last week of April. | | | |
| Summer Term | Approximately of 8 weeks duration from the first week of May to the first week of July | | | |
| Course Credit | Weighted sum of the number of Lecture hours (L), Tutorial hours (T), and Practical hours (P) associated with the course | | | |
| Registration | Semester-wise enrolment for courses as per the prescribed curriculum | | | |
| Semester Credits | Sum of credits of courses registered by the student in a semester | | | |
| Credits Earned | Sum of credits earned by passing a course registered during the semester | | | |
| Grade | Qualitative assessment of the student's performance in a course indicated by the letters, AP, AA, AB, BB, BC, CC, CD, DD, FR, DX, II, PP or NP Grade | | | |
| DX or FR | Indicates that the student has to repeat the course DR indicates course dropped | | | |
| Grade point | Number equivalent of the letter grades given by 10, 9, 8, 7,6, 5, 4, corresponding to AP and AA, AB, BB, BC, CC, CD, and DD respectively. FR, DX carry zero grade points, PP, and NP do not carry any grade points. II is a place holder, gets converted to an appropriate grade after end- semester re- examination. DR is just a position holder. | | | |
| Instructor | Member of faculty who teaches courses/labs | | | |
| Semester Grade Points | The sum of the products of credits and Grade Points for each course registered by a student in a semester | | | |
| SPI | Semester Performance Index which is obtained by dividing the Semester Grade Points by the Semester Credits | | | |
| Cumulative Credits | Sum of the Semester Credits for all the semesters taken together, wherein the credits of a course is not counted if an alternative course has been taken in lieu of it | | | |
| Cumulative Grade Points | Sum of the Semester Grade Points for all the semesters taken together, wherein the credits of a course is not counted if an alternative course has been taken in lieu of it | | | |
| СРІ | Cumulative Performance Index which is obtained by dividing the Cumulative Grade Points by the Cumulative Credits | | | |
| Transcript | Consolidated statement of the Academic Performance of a student for all the semesters completed | | | |
| Audit course | Course taken by a student for exposure only and carries no grade points. | | | |