AGENDA

Twenty-Ninth (29th) Meeting of SENATE of

Indraprastha Institute of Information Technology Delhi

Date: **21 April, 2015**

Day: **Tuesday**

Time: **03.00 PM**

Venue: **Senate Room, B-wing, 5th Floor,**
R&D Building, IIIT-D Campus,
Okhla Industrial Estate, Phase-III,
New Delhi-110020

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●	**Annexure No. Item No.** Annexure-I – 29.2 Annexure-II – 29.4 Annexure-III -- 29.5 Annexure-IV -- 29.6 Annexure-V -- 29.7 Annexure-VI -- 29.8 Annexure-VII -- 29.13 Annexure-VIII -- 29.15 Annexure-IX -- 29.16 Annexure-X -- 29.21 Annexure-XI -- 29.23

TWENTY-NINTH (29th) MEETING OF SENATE OF IIIT-DELHI

AGENDA

General

29.1 Opening remarks of the Chairman.

29.2 Confirmation of minutes of the 28th meeting of the Senate held on 30th December, 2014.

The minutes of the 28th meeting of the Senate were circulated among the members. No comments have been received so far. The Senate may consider the same for confirmation. A copy of the same is placed at Annexure-I, P-12.

29.3 Approval of Academic Calendar for Summer Term 2015

A copy of the Academic Calendar for Summer Term 2015 for approval (will be placed on table).

29.4 To consider the guidelines for moderation of grades

For moderation of grades some guidelines have been formulated and a copy of the same is placed at Annexure-II, P-33. Senate may kindly consider and approve these guidelines

29.5 To report a template designed for ascertaining report on conduct of Semester Examination

In order to closely monitor the attendance and reporting in the semester examination it is proposed to ascertain report from the instructor in each course. Accordingly a format has been designed for the purpose and the same is placed at Annexure-III,P-34.

29.6 No. of Courses being taught in Winter 2015 and No. of Students Registered in each Course.

Summary of course registration for the Winter,2015 is available in Annexure IV, P-35.

29.7 Total Number of Late Drops for Winter 2015

Details are available in Annexure V, P-37-38

29.8 To report the summary of Grade Change for Monsoon Semester 2014

Details are available in Annexure VI, P-39

29.9 To report the students who are on semester leave during Winter Semester 2015

The following students are on semester leave during Winter Semester 2015:

S.No.	Roll No.	Programme	Name
1	PhD1211	PhD	Dheryta Jaisinghani
2	MT13003	MTech	Amit Semwal
3	MT13073	MTech	Prabhat Mishra
4	2011084	BTech	Rachit Jain
5	2012167	BTech	Udayan Tandon

29.10 To report the summary of student course feedback for Monsoon 2014

Summary of student course feedback for Monsoon 2014 will be presented by the Chairman Senate at the time of meeting.

29.11 To apprise Senate about holding of 4th Convocation and related issues like Chief Guest etc

Chairman, Senate will apprise the members at the time of meeting.

29.12 To report extension of term of the existing Senate members till end of Summer,2015

Pending finalization of new nominations the Chairman, Senate has approved the extension of the term of the existing Senate members till end of Summer,2015. Senate is requested to ratify the approval given by the Chairman, Senate.

29.13 To report the list of students who completed graduation requirements on 21st Dec., 2014

A list of students who completed graduation requirements on 21st Dec., 2014 is placed at Annexure-VII, P-40

UG ISSUES

29.14 To consider the revised B.Tech. (CSE) program

Chairman, Senate will apprise the members at the time of meeting.

29.15 To consider changes in B.Tech.(ECE) curriculum

The course curriculum of B.Tech.(ECE) program has been reviewed and a revised course structure of first 2 years is placed at Annexure-VIII, P-41

Senate may kindly consider and approve the revised course curriculum.

29.16 To report modifications in Dual Degree regulation

The Senate at its 27th meeting held on 20th August,2014 had considered some queries made by the students whether they can leave before completion of M.Tech. part of the dual degree and whether refund of fee will be made to them. After detailed discussions the Senate had clarified the issues raised and desired that the clarifications be suitably incorporated in the Dual Degree regulation. Accordingly the clarifications have been suitably incorporated in the Dual Degree regulation and a copy of the revised regulation is placed at Annexure-IX P-42-43 for information.

29.17 To consider the proposal for stopping of External BTP

The Senate at its 21st meeting held on 13.2.2013 enabled External BTP to permit research collaboration through BTP. Based on the experience gained in the past it has been observed that this function is not being served - instead students are going for internships and insisting that they be counted as External BTP. This does not align with the purposes for which it was envisaged. It is, therefore, proposed that the External BTP be discontinued.

Senate may kindly consider and approve the above proposal.

29.18 To review the existing rules for Branch transfer of BTech. students from ECE to CSE and vice- versa

The Senate at its 21st meeting held on 13.2.2013 had approved the following rule for Branch transfer:

- ***"Branch transfer is possible only after the grades of the second semester are out. However, students may apply or be requested to apply at an earlier stage for the same.***

- ***For the transfer from ECE to CSE the grades in both IP and DSA should be at least a B-.***

- ***For the transfer from CSE to ECE there are no course specific requirements. The students satisfying the branch transfer criteria will form a priority list based on CGPA.***

- ***The total number of CSE students should remain within 10 of their initial strength, i.e. between 110 and 130 for CSE, and ECE should be within 40 and 60 for the batch admitted in Aug 2012."***

The status of students admitted during academic year 2014-15 is as follow:

Discipline	Intake	Admitted	Withdrawn	Present strength
CSE	127	125	5	120+7(Repeaters)
ECE	54	48	9	39+4 (Repeaters)

While processing the case for branch transfer for the academic year 2014-15 a doubt has arisen whether the repeaters (if any) should be taken into account in the total strength for effecting the branch transfer.

Senate may kindly consider the above matter and provide necessary clarifications.

29.19 To report the number of B.Tech. students migrated to Dual Degree program during academic year 2014-15

The following students have been permitted to migrate to the Dual Degree program during academic year 2014-15:

S.No.	Roll No.	Name
1	2011094	Sahil Mahajan
2	2011104	Shivangi Yadav
3	2011119	Yesha Mittal

29.20 To report increase of two more supernumerary seats (i.e. 12 seats) for B.Tech. admission through DASA

The Senate at its 28th meeting held on 30th December,2014 while reviewing the B.Tech. admission criteria had , interalia, approved 10 supernumerary seats for admission through DASA, as last year. Thereafter, the number of seats for DASA has been reviewed and it has been decided to increase two more supernumerary seats (i.e. 12 seats) for admission through DASA during the academic Year 2015-16.
Senate is requested to accord approval for above increase in the supernumerary seats.

29.21 To report attendance in the UG core courses

The Senate at its 26th meeting held on 25th June2014 had considered a proposal for Enhancing Student Engagement in Academics and Institute and, interalia, approved the following step to ensure a minimum of 75% attendance in the first two years:

> "Compulsory attendance in first two years – we will adhere to the AICTE norms of minimum 75% attendance in the first two years. If a student's attendance is below 75%, his/her grade will be reduced by one except D (i.e. D will not be reduced to F). Authorized leave of absence including medical leave will be allowed up to 25%."

Different methods were adopted on experimental basis for taking attendance in the beginning. Finally, from week 09 of the current semester (Winter 2015) it was decided to take attendance in lecture sessions for core courses (BTech 1st and 2nd year) on a random basis by passing the attendance sheet for signatures during the class. While a number of classes are yet to be conducted, a summary of the Attendance in various courses taken so far has been compiled and the same is placed at Annexure-X, P-44

On perusal of the summary sheet it is revealed that average attendance of the students taken so far on random basis falls below the threshold.

The above position is placed before the Senate for information/guidance.

29.22 Recommendation Report by UGC

M.TECH. ISSUES

29.23 To consider revision of M.Tech. program in Computational Biology (CB) and starting it from Academic Year 2015-16

The Senate at its special meeting held on 28th May,2014 had approved starting of M.Tech. program in Computational Biology (CB) from 2014-15 with an intake of 24. The Senate had also approved the regulation for the program. However, due to inadequate response from the candidates the starting of the program was deferred.

Meanwhile, the program has been reviewed and it is now proposed to open to other disciplines also (other than CS/IT). Some minor changes have also been proposed in the eligibility criteria. A copy of the revised **M.Tech. program in Computational Biology (CB)** is placed for consideration at Annexure-XI,P- 45

Senate may kindly consider and approved the above proposal.

29.24 To consider recommendation of the PGC regarding Thesis / Scholarly paper guidance by Adjunct Faculty

The PGC at its 5th meeting held on 30.1.2015 considered the issue of guidance of M.Tech. thesis or Capstone Project by an Adjunct Faculty and recommended as under:

"PGC considered the issue of guidance of M.Tech. thesis or Capstone Project by an Adjunct Faculty. After detailed discussions the PGC recommended that a fresh M.Tech. student can be allowed to be guided by an Adjunct faculty only with a co-supervisor."

Senate may kindly consider and approve the above recommendation of the PGC.

29.25 To report a list of thesis defense of 2012 batch M.Tech students.

Starting with 2012 batch M.Tech. students we have prepared a list of M.Tech. thesis defense showing the list of M.Tech. students, names of Supervisor/Co-supervisor, title of thesis, names of Internal and External examiners. A copy of the list will be placed on the table.

It is also proposed to place the above list on the IIITD website as well as in the Annual report.

29.26 Recommendation Report by PGC

Ph.D ISSUES

29.27 To consider modification of Regulation 15(7) dealing with Comprehensive examination of Ph.D. students

PG Regulation 15 (7) dealing with Ph.D. Comprehensive examination, as recommended by PGC earlier, currently provides as under:

"A student is expected to complete his/her comprehensive examination as per the following timeline:

S.No.	Category of Ph.D. students	Time limit for completion of comprehensive
1.	PhD students admitted directly from a BTech	5 semesters
2.	PhD students migrating during IIITD MTech	4 semesters
3.	PhD students after completing IIITD MTech	3 semesters
4.	PhD students not from our institute	Either case 1 or case 3 will hold

A student, who fails the examination, will be allowed an additional half a semester (i.e. 3 months) to complete the comprehensive examination requirements."

On further examination of the above provision it is noted that there is no category 3 (as migration has to happen while the student is still enrolled, and the stated principle for migration is that "student is deemed to have joined Phd from the date of joining the PG program.) This is causing confusion among students. Accordingly, it is proposed to modify the above as follow:

"A student is expected to complete his/her comprehensive examination as per the following timeline:

S.No.	Category of Ph.D.students	Time limit for completion of Comprehensive
1.	PhD students admitted directly from a BTech	5 semesters
2.	PhD students after completing MTech	3 semesters
3.	PhD students migrating from MTech	3 semesters from the date of joining PhD

A student, who fails the examination, will be allowed an additional half a semester (i.e. 3 months) to complete the comprehensive examination requirements"

The above modification was circulated among PGC on 1st April,2015 and they agree with the same. Senate is therefore, requested to consider and approve the above proposal.

29.28 To report the status of Rolling PhD Admissions

Rolling PhD admissions:

The following students have been admitted under Rolling PhD:

Sl. No.	Roll No	Program	Joining Date	Name
1	MT13132	ECE	05.01.2015	Priya Aggarwal
2	PhD14114	ECE	12.01.2015	Manideepa Mukherjee
3	PhD14008	CSE	05.01.2015	Ishant
4	PhD14201	CB	05.01.2015	Anupam Mondal

29.29 To report the summary of PhD students' review held in January,2015

Summary of Ph.D. students' review held in January,2015 will be placed on the table.

29.30 To report status of Writ Petition (C) No. 3858/2014 filed by Mr. Madhur Hasija

As per order dated 2nd December,2014 of the Hon'ble Delhi High Court, Mr. Madhur Hasija has given his acceptance for shifting to M.Tech.program. He is no longer Ph.D. student. He has been asked to complete the registration formality for M.Tech. program and pay the fees.

29.31 Approval from AICTE

We had applied for approval of AICTE for (i) extension of approval of the existing programs for the year 2014-15, (ii) change of site and (iii) approval of two additional PG programs i.e. M.Tech. in Mobile Computing and M.Tech. in ECE (VLSI). The AICTE has conveyed approval for (i) and (ii) above. However, the approval for two additional PG programs is pending. We have taken up the matter with the AICTE to expedite the approval for the two PG programs.

29.32 Application for NAAC Accreditation

Expert Committee from NAAC has visited the institute on 12-14th March,2015 and submitted its recommendation. The final grading/certificate from NAAC is awaited.

29.33 Application for NBA Accreditation

We have submitted e-SAR for approval from NBA. The expert visit from NBA is awaited.

29.34 Any other item with permission of the Chair

Annexure-I

Minutes of the 28th Senate meeting of IIIT-D held on 30th December, 2014 at 03.00 PM in the Senate Room, B-wing, R&D Building, Okhla Industrial Estate, Phase-III, New Delhi-110020

Following members were present:

- Prof. Pankaj Jalote - Chairman
- Prof. K.K. Biswas - External Member
- Dr. Kaushik Saha - External Member
- Dr. Gautam Shroff - External Member
- Prof. Samaresh Chatterji - Ex-Officio Internal Member
- Dr. Astrid Kiehn - Ex-Officio Internal Member
- Mr. Hemant Kumar - Ex-Officio Internal Member
- Dr. A.V. Subramanyam - Internal Member
- Dr. Mohd. S. Hashmi - Internal Member
- Dr. Shreemoy Mishra - Internal Member
- Dr. Sriram K. - Internal Member
- Dr. Sujay Deb - Internal Member
- Mr. Ashwani Kumar Kansal - Secretary

Following member attended via telecon:

- Prof. Anshul Kumar - External Member

Special Invitees:

- Dr. Vikram Goyal - Faculty- IIITD
- Dr. Anubha Gupta - Faculty- IIITD
- Dr. Vivek Bohara - Faculty-IIITD
- Mr. Manohar Khushalani - Visiting Faculty- IIITD
- Mr. K.P. Singh - Academic Incharge
- Mr. Ashutosh Brahma - JM -Academics

TWENTY- EIGHTH (28th) MEETING OF SENATE OF IIIT-DELHI
MINUTES OF THE MEETING
(held on 30th DECEMBER, 2014)

28.1 Opening remarks of the Chairman.

The Chairman welcomed all to the meeting. Thereafter, agenda items were taken up for discussions.

28.2 Confirmation of minutes of the 27th meeting of the Senate held on 20th August, 2014.

Since there were no comments, the minutes of the 27th meeting of the Senate held on 20th August, 2014 were confirmed.

ACTION TAKEN REPORT

28.3 To report modification of B.Tech. CSE (Regulation)

The Senate ratified the approval given by Chairman, Senate for modification of existing B.Tech.(CSE) regulation placed at Appendix-I

ACADEMIC & STUDENTS MATTERS

28.4 To review the Admission Criterion for BTech 2015 Batch

Chairman, Senate apprised the members of the existing B.Tech. admission criteria and the proposal to continue the same for B.Tech. 2015 batch. He also apprised the members of the proposal for increase in the number of seats in the UG intake and distribution of seats among the two disciplines. After detailed deliberations the Senate approved the proposal as detailed in Appendix-II The Senate also agreed to the proposal to add 10 more seats in the total UG intake and distribution of seats among the two disciplines as follow:

Discipline	Existing	Revised
CSE	120	110
ECE	50	70
Total	170	180

In addition DASA will have 10 supernumerary seats, as last year.

28.5 To review the Bonus Marks for BTech Admissions 2015

Chairman, Senate apprised the members of the existing norms for awarding Bonus marks to the candidates for B.Tech. admission and informed that the very limited data the Institute indicates that the performance in 1st semester of the students admitted with bonus marks is similar to those without bonus marks. It was agreed that Institute should continue with the method of providing bonus marks as it is a good and transparent method of giving credit to other achievements, but it was felt that criteria, where the number of students who qualify is larger (say more than 100) may be given only 6 bonus marks, while criteria under which where the number of students who qualify is small (e.g. final batch in Olympiads, top performers in Procon) may be given 10 marks.

It was also agreed to grant bonus marks to recipients of the Kishor Vaigyanik Protsahan Yojana (KVPY) award. This is very selective scheme of DST, and these students are granted direct admissions in institutions like NICERS.

A final note on bonus marks should be submitted to next Board meeting for approval.

28.6 Approval of Academic Calendar for Winter Semester 2015

The Senate approved the Academic Calendar for Winter Semester 2015 placed at Appendix-III.

28.7 To consider a proposal to introduce Refresher Modules for incoming M.Tech. students.

Chairman, Senate apprised the members of the background of the proposal and informed that most of the incoming M.Tech. students in IIIT-D are not fully prepared for the Masters program and therefore, providing "refresher program" for incoming students will greatly help in preparing them better for the M.Tech. program. After detailed deliberations the Senate approved the proposal but suggested that Institute should not assume that all students are underprepared and should find ways to give waiver of this requirement to those who possess satisfactory background. The contours of the approved scheme are:

Institute will offer, for new M.Tech. (CSE, ECE & Comp. Bio) students a few refresher modules of about 4 week duration during the summer. Each module will be of 2 credits. These will be labelled as 200 level courses, and will be in important foundational subjects in which students generally are weak. M.Tech. students will be required to do two refresher modules. As they are 200 level courses, these are extra credits, and will not count towards M.Tech. credit requirement, and the grades, while shown in the transcript, will not count towards the CGPA calculation for the M.Tech. This

requirement will be waived for those students whose background does not have the deficiency.

The Institute will work out operational details including method of assessment, award of grade, giving of waiver to those having sufficient background in the course etc.

28.8 To consider modification of the existing regulation No. 15 (12) a. regarding issue of provisional certificate to Ph.D. students

Chairman, Senate apprised the members of the existing provision contained in PG Regulation No.15 (12) regarding issue of Provisional Certificate and necessity of making changes in the same. After detailed deliberation the Senate approved the modification of the existing regulation No. No. 15 (12) a as under:

> Upon acceptance of the revised thesis by the PG committee, the Chairman, Senate may recommend the award of the PhD degree to the student. While pending the actual award of the degree in a regular convocation of the Institute, the Chairman, Senate may also authorize the Registrar to issue a provisional certificate to a student who completes the requirements for graduation.

28.9 To consider a proposal to allow the students to take approved coursera/edx/… courses as IS in any semester including summer semester.

Chairman, Senate informed the members that there is a need to encourage students to use the wealth of courses available online. It was noted that students can do online courses as Independent Study (IS) under the guidance of faculty. However, as IS is treated like a regular course, each IS requires a faculty adviser who has to do proper assessment to assign a grade. Due to this, faculty have little interest in guiding IS. (The data also indicates that very few BTech students do IS.)

The Senate agreed that Institute should encourage students to use online courses and giving credit for doing them, but cautioned that there must be some assessment done by the Institute to ensure that suitable learning has taken place, as assessment of online courses cannot yet be relied upon.

It was clarified by UGC chair that the Institute has already approved that students can take approved online courses with S/X grade. It was agreed that the scheme can be promoted. Towards this, it was agreed that based on inputs from students some online courses may be pre approved to be undertaken by students. This may be done before the first week of the semester, so students can enroll/add these courses. For these approved courses, Institute will develop methods for assessing the student for awarding the S/X grade. It was felt that for 6-8 week online courses (which are common), normally 2 credits may be awarded.

UGC was requested to work out details for operating this.

28.10 To consider modifications in the existing PG Regulations for handling special requirements of different disciplines.

Chairman, Senate apprised the members of the existing provisions in the PG regulations and the proposed suggested changes. He also apprised the views expressed by one of the faculty members through email. After detailed deliberations the Senate agreed to the structural changes suggested for PGC as detailed in Appendix-IV.

The Senate also agreed to the special requirement of ECE to conduct the first year assessment of the PhD students differently. However, the Senate desired the ECE faculty to re-look at the special requirement of having extra course credit requirement for students with M.Tech. degree, and make a case with proper justification for the same. In general, it was felt that special requirements must have strong justification, and should be proposed only if the existing regulations cannot serve the purpose.

28.11 Presentation and discussion on B.Tech. (CSE) program review and current suggestions.

Chairman, Senate introduced the proposal for discussions. Thereafter, Dr. Vikram Goyal briefed the members about process of review currently being done, the historical background of the B.Tech.(CSE) program and the changes made in the program from time to time. He also apprised the members of the weaknesses identified in the current program by taking input from the Alumni, Placement Cell, final year students and the faculty. He further informed that after detailed review the recommendations made by the Review Committee will be discussed in the FM and then the proposal will be finally put up to Senate for consideration and approval.

ITEMS FOR INFORMATION

28.12 No. of Courses taught in Monsoon 2014 and number of Students Registered in each Course.

The Senate noted the position.

28.13 Total Number of Late Drops for Monsoon 2014

The Senate noted the position.

28.14 Approval from AICTE

Registrar apprised the members of the present status.

28.15 Application for NAAC Accreditation

Registrar apprised the members of the present status.

28.16 Application for NBA Accreditation

Registrar apprised the members of the present status.

28.17 Status of Writ Petition (C) No. 3858/2014 filed by Mr. Madhur Hasija, Ph.D. student

The Senate noted the order of the Hon'ble High Court of Delhi dated 2.12.2014 for implementation.

28.18 To ratify the decision taken by Chairman Senate for Award of PhD Degree

The Senate ratified the approval given by Chairman Senate for the award of PhD Degree to Mr Denzil Correa on behalf of the Senate.

Arising out of discussions the Senate desired that henceforth, the names of the Reviewers may be printed in the final thesis after Viva-voce examination. Also, in the letter to be sent to the future reviewers, it may be informed that in order to give due credit to their contributions in evaluation, the Institute will publish their names in the final thesis after approval of the thesis.

28.19 To consider Ph.D. thesis evaluation guidelines

Chairman, Senate apprised the members of the Ph.D. evaluation guidelines. The Senate desired that the document may be sent to all the Ph.D. students for their comments, if any. Chairman, Senate was also authorized to finalize the document by making changes before uploading on the website.

A suggestion was made to include the names of the thesis examiners in the final thesis (i.e. after the thesis has been successfully defended.) It was agreed that this is a good idea, also followed in many other places. This will help in transparency and building reputation of the Institute, as the Institute has been very careful in selecting highly respected researchers as thesis examiners. It was also agreed that in the request mail/letter sent to the examiners, it should be clarified that the names of the examiners will be included in the final thesis.

28.20 Recommendation/Report by PGC:

Senate considered the recommendation of the PGC made at its 2nd meeting held on 24.9.2014 and decided as under:

i. Recommendation at (i) regarding appointment of supervisor for students joining PhD program through rolling admission was approved.

ii. Recommendation at (ii) regarding appointment of supervisor for students joining PhD program through direct admission may be considered in FM and its recommendation may be accepted and reported to Senate

iii. In respect of recommendation at (iii), the Senate did not agree to application of the recommendation from retrospective effect. The Senate further desired that the matter regarding guidance by adjunct faculty who was earlier a faculty member of the Institute and appointment of co-supervisor may be referred back to PGC for reconsideration keeping in view the amount of work already done by a student etc. Whatever guidelines are evolved may not apply to cases (e.g. Dr. Haimonti and Dr. Srikanta) who have been allowed by Chairman, Senate, to continue guiding their PhD students. It was agreed that, in general, Adjunct Faculty may not be solo-guide of PhD students, as their tenure is also typically 2 years. It was felt that Adjunct faculty may be allowed to guide MTech students, though guidelines for this also will be evolved by the PGC.

(b)The Senate approved the following format of Research Plan to be submitted by the student towards comprehensive examination:

Title of Research Plan (Pg 1)

submitted by
Student Name
(Roll No.)

For Comprehensive Examination
Month, Year

Supervisor's Name

CONTENTS (Pg 2)

The expected length of the report is 30 to 50 pages.

(c) The Senate approved guidelines for dealing with the Ph.D. evaluation reports as per Appendix-V

28.21 Recommendation / Report by UGC:

The Senate considered the recommendations of the UGC placed at Appendix VI and decided as under:

1. Recommendation at Sl. No. 1 to remove any reference to streams in the BTech(CSE) program was deferred. It was decided to consider this issue after review of the B.Tech.(CSE) program is completed.

2. Recommendation at Sl. No. 2 to include BTP courses which are not completed to a full BTech project, in the count of maximal 8 credits that may be done with IP/IS/UR courses was approved.

3. Recommendation at Sl. No. 3 was not taken up for discussions and hence dropped.

28.22 Summary of graduating Ph.D. students

The Senate noted the summary of three graduating PhD. Students presented during the meeting.

The meeting ended with a vote of thanks to the Senate.

Appendix-I

INDRAPRASTHA INSTITUTE of INFORMATION TECHNOLOGY DELHI

Okhla Industrial Estate, Phase III
New Delhi 110020
www.iiitd.ac.in

Regulations for the BTech (CSE) Program

1. Preamble

IIIT Delhi aims to encourage research and innovation in Information Technology (IT) and allied areas. The objective of the BTech program in Computer Science and Engineering (CSE) is to prepare students to undertake careers involving innovation and problem solving using computational techniques and technologies, or to undertake advanced studies for research careers or to take up Entrepreneurship.

In order to give due importance to applied as well as theoretical aspects of computing, the curriculum for the BTech (CSE) program covers most of the foundational aspects of computing sciences, and also develops in students the engineering skills for problem solving using computing sciences.

Most engineering programs start with general courses in Sciences, and then migrate to specialized courses for the disciplines. While these courses are indeed foundational for many engineering disciplines, they can be treated as application domains (as is evidenced from the fact that most sciences and Engineering disciplines heavily use computing now). Hence, the BTech (CSE) program at IIIT-Delhi starts with computing oriented courses first, and allows the possibility of doing science courses later. Besides being better suited for a CSE program, it also enables the possibility of students seeing newer applications and possibilities of using computing in these subjects.

With this approach, the BTech (CSE) program can be divided broadly in two halves. The first half focuses on building the foundations, and is highly structured. The second part is for developing the skills and knowledge of the students in various topics – computing and application domains. This part also provides limited specializations, and different students may follow different paths and take different set of courses in it. Overall objectives of the B.Tech.(CSE) program are to help develop the following attributes in students:

1. Understanding of theoretical foundations and limits of computing
2. Understanding of computing at different levels of abstraction including circuits and computer architecture, operating systems, algorithms, and applications.
3. Ability to adapt established models, techniques, algorithms, data structures, etc. for efficiently solving new problems
4. Ability to design, implement, and evaluate computer based system or application to meet the desired needs using modern tools and methodologies
5. Ability to function effectively in teams to accomplish a common goal
6. An understanding of professional and ethical responsibility.
7. Ability to communicate effectively with a wide range of audience

8. Ability to self learn and engage in life-long learning
9. Understanding and ability to use advanced techniques and tools in different areas of computing
10. Ability to undertake small research tasks and projects
11. Ability to take an idea and develop into a business plan for an entrepreneurial venture (if desired)
12. An understanding of the impact of solutions in an economic, societal, and environment context.

This document specifies the specific regulations for the BTech (CSE) program – the general regulations for the BTech program are given in a separate document. These regulations are in addition to the regulations of the BTech program.

2. The Foundation Program and Core Courses

1. The Foundation program provides the basic knowledge about CS through a set of core courses, which are compulsory for all students. This program consists of four major streams: software, hardware, theory, and systems. Besides these, there are courses in Maths, communication skills, environment studies also as part of the core program.

2. The set of core courses are shown in the table below (courses mentioned in [ ] are electives and actual courses for these slots are as defined from semester to semester.)

	Sem 1	**Sem 2**	**Sem 3**	**Sem 4**
Software Stream	Intro to Programming	Data Structures and Algorithms	Advanced Programming	Databases and SQL
Hardware Stream	Digital circuits	Computer organization		
Theory Stream			Discrete Math	Algorithm Design and Analysis
Systems stream	System Management		Operating Systems	Computer Networks
Maths	Math 1 (Linear Algebra)	Math 2 (Probability and Statistics)		
Communications/HSS	Communication Skills	[HSS-1]	[[HSS-2]	Technical Communication (2 credits)
Other Courses			[Engineering Science/Math]	Environment studies (2 credits) [Engineering Science/Math]

3. The semester mentioned for the core courses is indicative and suggested, and they can be done later/earlier also. However, the pre-requisite requirements must be kept in mind by a student, if he/she wishes to do a core course in some other semester.

4. In the Engineering Science/Math course slots in second year, students can take only from the list of courses specified for those slots.

3. The Advanced Part and Streams

1. The rest of the program consists mostly of ***elective courses.*** An elective course is one which is not compulsory, and a student may have choices from which to select the courses he/she wants to do.

2. Some of the electives may be organized as ***streams,*** where a stream is a sequence of courses in an area providing a limited specialization in that area.

3. Besides electives and streams for specialized areas, streams and electives from domain areas (e.g. health, life sciences, finance, economics, E-Governance, sciences, etc.) may also be offered.

4. The number and nature of streams and electives will evolve and may change with time, providing the ability to accommodate the evolving nature of computing and its applications in the program. Some of the current streams are in these areas:

- Image Processing and Machine Intelligence
- Data Analytics
- Mobile Computing
- Security and Privacy
- Hardware
- Theory
- Finance
- Environment
- Economics
- Sciences (Physics, Biology)

5. There will also be a set of Humanities and Social Sciences (HSS) courses offered.

6. List of courses, and further information about the courses is available on the website: http://www.iiitd.ac.in/courses.php

4. Requirements for Graduation

For a BTech (CSE) degree, a student must satisfy all the following requirements:

1. Earn a total of 152 credits (equivalent to 38 full courses – 20 courses in the first two years, and 18 courses in the last two years.)

2. Successfully complete all the core courses.

3. Do at least 12 credits of Humanities and Social Sciences Courses.

4. Do 2 credits of Community Work and Self Development each. These are pass/fail credits, which are required to be completed, but do not count for fulfilling the credit requirement (i.e. these are in addition to the requirements mentioned above)

5. In the last four semesters, a do at least 32 credits of CSE courses. BTP/Independent project/Independent study/Undergraduate Research cannot count for this requirement. UGC may approve some other relevant courses (e.g. from Math, ECE, Computational Biology, etc.) to be counted as CSE courses for this purpose.

6. A BTech Project (BTP) is optional. A student opting for BTP, may take a total of 8 to 16 credits of BTP. In a semester, the student can normally register for at most 8 credits of BTP.

7. External BTP – A student may be permitted to do, with approval, a BTP of up to 12 credits in one semester in another organization like industry, research lab, another institution, etc. While doing External BTP, a student cannot register for any course in the Institute.

8. A student may take "Independent Project" or "Independent Study" or "Undergraduate Research" courses for 1, 2, or 4 credits. No more than 8 of these credits can count towards satisfying the credit requirements of the degree. Only students with satisfactory CGPA (at least 7.5) or with a strong interest in some area (the faculty advisor to determine this) can take these courses.

5. Honors Program

The BTech (CSE) program has the Honors option, requirements for which are same as specified in the regulations for the BTech program. Namely

1. The student must earn an additional 12 credits (i.e. must complete at least 164 credits)
2. The student's program must include a BTech Project
3. At graduation time, the student must have a CGPA of 8.0 or more

Change History

- Version 2.0 (Dec 2010). Main changes: Graduation requirements enhanced to 152 (8 more); system management, critical reading, and technical communication were made full 4 unit courses (and the 2 unit course in 4th year on interview skills was removed), and an additional Maths course (4 unit) was added in the second year.
- Version 2.1 (April 2012): This is now stated as requirements for CSE. Math 1 has been made a core course, and TOC has been made an elective. A design course introduced as core course in 2nd semester. The elective slots in 2nd year has been marked as Engineering Science/Maths and it has been clarified that in these slots, students can take only from the list of courses specified for them. Clarified that 2 credits of SG and 2 credits of CW must be done. Clarified that only 4 credits of BTP/IP/IS/UR can be counted for meeting the 8 credit CSE/Math per semester requirement. Clarification that total credits is 20 courses in first 2 years, and 18 in last two. BTP credit range changed to 8 to 16 credits.

- **July 2013 Release**
  Preamble modified
  Critical reading and Software Engineering removed from core
  In 2nd year, it is indicated that TCOM can be done
  Math 1 and Math 2 explained
  Intro to Engg Design added in 2nd sem as sequel to System Management
  Added the regulation for BTP External
  Changed the 8 CSE credits per semester to 32 CSE credits in last four semesters.

  July, 2014 release: Only a few minor changes done

  November, 2014 release: Program Objectives added

Appendix-II

Admission to B.Tech. Programs -2015

Admission criteria

Admission will be based on the total marks obtained in Paper 1 of JEE Main 2015 and normalized score in Class 12th as provided by JEE (60% & 40% weightage respectively). In addition up to 10 bonus marks will be given to candidates as mentioned……..

Eligibility

A candidate who has secured 80 percent or more marks in aggregate (including Physics, Chemistry and Math) and 80% or more in Mathematics in class XII from CBSE/ICSE/IB board or equivalent is eligible for applying to IIIT-D. This requirement is in addition to the marks obtained in Paper 1 of JEE (Main) 2015 and normalized score in Class 12th.

However, if the result of 10+2 is not declared by the last date of applying, the student is not eligible for this year's admission process. If the board has more than five subjects for aggregate, the best five will be taken into account. No candidate without proof of at least 80% in aggregate(including Physics, Chemistry and Math) and 80% in Mathematics will be entertained for admission even if he/she qualifies the JEE (Main) 2015..

Age criteria

A candidate should be less than 25 years of age as on the first October 2015.

Relaxation in eligibility condition for reserved categories

Candidates belonging to the following categories, who apply for seats reserved for them, shall be allowed a relaxation in the eligibility requirement. The relaxation is applicable both in Mathematics and overall percentage as detailed below:

(a)**Scheduled Castes (SC):** A relaxation of 10 per cent marks in the eligibility requirements for the seats reserved for them.

(b)**Scheduled Tribes (ST):** A relaxation of 10 percent marks in the eligibility requirements for the seats reserved for them.

(c)**OBC:** A relaxation of 5 percent marks in the eligibility requirements for the seats reserved for them.

(d)**Defence**:A relaxation of 5 percent marks in the eligibility requirements for the seats reserved for them.

(e)**Persons with Disability (PwD):** A relaxation of 5 percent marks in the eligibility requirements for the seats reserved for them.

(f)**Kashmiri Migrants (KM):** One seat, which will be supernumerary in nature, is earmarked for Kashmiri migrants.

NOTE:

i. In the case of category(a) and (b), the vacant seats are interchangeable (Not applicable for Delhi region). Any seat left vacant after conversion from (a) to (b) or vice-versa will be treated as unreserved.

ii. In case sufficient numbers of eligible candidates from category mentioned at (c), (d) and (e) are not available, the vacancies will be **treated as unreserved**.

iii. The reservation under Defence category is available only to such candidates who fall under the seven priorities listed below.

iv. It is the sole responsibility of the candidate to prove his/her eligibility for claiming reservation under any of the reserved categories. The candidates under SC/ST/Defence/PwD categories will be required to produce the original certificate of the respective reserved category issued by the competent authority at the time of counseling. If the category certificate is not found to be in order, no benefit of the reserved category will be given.

Appendix-III

ACADEMIC CALENDAR

(Winter Semester 2015 - 30 Dec 2014-6 May 2015)

Week 0 (January)						Week 1 (January)						Week 2 (January)						Week 3 (January)					
Tue	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat
30	31	1	2	3	4	5	6	7	8	9	10	12	13	14	15	16	17	19	20	21	22	23	24
End of Winter Vacations		New Year H	3 Days Module for BTech students			1st Day of Class		Last day for Late Regn.		Last day for course Add/ Drop													

Week 4 (January)						Week 5 (February)						Week 6 (February)						Week 7 (February)					
Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat
26	27	28	29	30	31	2	3	4	5	6	7	9	10	11	12	13	14	16	17	18	19	20	21
Republic Day				Odyssey							TT - FRI												
GH																							

Week 8 (February)						Week 9 (March)-Mid Recess						Week 10 (March)						Week 11 (March)					
Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat
23	24	25	26	27	28	2	3	4	5	6	7	9	10	11	12	13	14	16	17	18	19	20	21
Mid-Sem Examinations Week										Holi						Research Showcase		Last day for Late Drop*					
										GH													

Week 12 (March)						Week 13 (March-April)						Week 14 (April)						Week 15 (April)					
Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thurs	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat
23	24	25	26	27	28	30	31	1	2	3	4	6	7	8	9	10	11	13	14	15	16	17	18
					Ram Navmi				Mahavir Jayanti	Good Friday							TT-THURS		TT-FRI	Pre-Registration Starts			
					GH				GH	GH													

Week 16 (April)						Week 17 (April-May)						Week 18 (May)						Week 19 (May)					
Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thur	Fri	Sat	Mon	Tue	Wed	Thurs	Fri	Sat
20	21	22	23	24	25	27	28	29	30	1	2	4	5	6	7	8	9	11	12	13	14	15	16
	BTP Submission									BTP Presentation		Buddha Purnima		Moderation Meeting	Summer Vacation starts	Pre-Registration Ends	Announcement of Grades (tentative)						
	Last Day of the		End-Sem Examinations/Labs/Demos/Projects									GH											

H: Holidays **GH: Gazetted Holidays**

1 Jan (Thurs)	New Year Day	26 Jan (Mon)	Republic Day	6 Mar (Fri)	Holi
28 Mar (Sat)	Ram Navmi	2 Apr (Thur)	Mahavir Jayanti	3 Apr (Fri)	Good Friday
4 May (Mon)	Buddha Purnima				

Summer Vacation : 7th May 2015 onwards

*Note: Late Drop for a 2 Credits Course(Offered for half a seemster) can be done till 2/3rd of the course is done.

Appendix-IV

Modification of PG Regulations for handling different disciplines

Clause No.	Existing Provision	Proposed modifications
1	**General** (1) This document gives the general regulations applicable to all MTech and PhD programs. Specific requirements for a particular MTech program (e.g. MTech in Computer Science and Engineering) are specified in regulations for that program. (2) While the Senate is the main statutory body for all academic matters, the Postgraduate Committee (PGC), a standing committee of Senate, shall oversee matters related to the postgraduate program. This committee shall be appointed by the Senate and shall have a term of two years. It may consist of Faculty members, Research staff, and members of the Senate. In addition, there will be at least one student representative, who will be a full time PG student of the Institute.	**1.General** (1) This document gives the general regulations applicable to all MTech and PhD programs. Specific requirements for a particular MTech program (e.g. MTech in Computer Science and Engineering) are specified in regulations for that program. For PhD, special requirements for different disciplines (e.g. CSE, ECE) are given at the end of this document – these special requirements have to be satisfied by PhD students in that discipline. (2) While the Senate is the main statutory body for all academic matters, the Postgraduate Committee (PGC), a standing committee of Senate, shall oversee matters related to the postgraduate program. The committee will comprise of a PhD coordinator for each of the disciplines, program coordinators for all MTech programs, the UG Committee Chair, and at least one student representative who will be a full time PG student of the Institute. The committee may coopt, with permission of Chairman, Senate, other Faculty members, Students, Research staff, and members of the Senate in PGC.
6	(5)An MTech student can change his/her program to PhD and continue to do the course/research work to enable him/her to meet the	(5) An MTech student can change his/her program, if permitted, to PhD and continue to do the course/research work to enable him/her to meet the

	requirements of the PhD degree. The student will be eligible for PhD stipends only from the time he/she enrolls as PhD student. Such a student, for PhD credit requirement, may be treated as if he/she had joined the PhD program from the start of the PG program. The student may be granted an MTech also, provided he/she fulfils requirements for the same. Such a student may also be refunded his/her MTech tuition fee, if he/she successfully completes the PhD program.	requirements of the PhD degree. The student will be eligible for PhD stipends only from the time he/she is enrolled as PhD student. Such a student, for PhD credit requirement, may be treated as if he/she had joined the PhD program from the start of the PG program. The student may be granted an MTech also, provided he/she fulfils requirements for the same. Such a student may also be refunded his/her MTech tuition fee, if he/she successfully completes the PhD program.
15	**(6) Monitoring Committee** a. The PG Committee shall form a monitoring committee for each candidate, whose task will be to independently monitor and report on the progress of the candidate. The committee should generally be formed before the end of the candidate's second semester in the program. The monitoring committee shall consist of at least one supervisor and at least two other experts, who may be faculty members of the Institute. The monitoring committee shall submit its evaluation about the progress of the candidate, at least once a year. If the monitoring committee feels that the candidate is not making sufficient progress, it may recommend suitable actions to be taken.	**(6) Monitoring Committee and Yearly Review / Yearly Seminar** a. The PG Committee shall form a monitoring committee for each candidate, whose task will be to independently monitor and report on the progress of the candidate. The committee should generally be formed before the end of the candidate's second semester in the program, and should consist of at least three faculty members/experts. b. The monitoring committee shall submit its evaluation about the progress of the candidate, at least once a year. If the monitoring committee feels that the candidate is not making sufficient progress, it may recommend suitable actions to be taken, including recommending that the student leave the PhD program or migrate to MTech, as given in 6(3). This review may be done by requiring the PhD students to make presentations about their progress, or through some other method.

	(8) Regular Seminars a. This requirement is included to develop the confidence in presentations by the PhD students, as well as provide a forum for the student to present his/her work (perhaps before taking it to a wider audience.) Each PhD student is expected to give at least one seminar each year in the Institute. It is expected that the later seminars will be based on the student's PhD research work. During his/her stay, the PhD student must give at least two such seminars. Each seminar will also be used as an indicator of progress, and shall be attended by the monitoring committee of the candidate, which shall submit a report to the PG Committee.	**(8) Regular Seminars / Yearly Review** The requirement for regular seminar or a yearly review is moved to item (6)
19	-	**Special Discipline-Specific Requirements for PhD** (1) **Special Requirements for CSE** None (2) **Special Requirements for ECE** a) The first yearly review will be done through a viva-voce, in a manner as specified and notified by the PhD coordinator for ECE. b) Students joining the PhD program with MTech degree will need to do at least 20 credits of course work.

Appendix-V

Revised guidelines to deal with PhD Thesis Evaluation Reports

Guidelines to deal with the reports:

i. The student should address all the issues raised by the examiners; prepare a summary sheet listing the comments made by the examiners and his/her responses thereto. He should clearly state how he/she has addressed each issue raised by the examiner. Modify his/her thesis, wherever required. He/she has to submit the revised version of thesis within three months. If more time is needed, a request may be made for the same.

ii. The revised version of the thesis and the summary sheet showing the changes made by the student, to be forwarded by the supervisor with his endorsement that the changes have been made to his/her satisfaction. The same will be then sent to **all** the examiners at least 1 week before the defense.

"Category (C)" – Additional Provision

iii. To resend the revised thesis along with the summary sheet (received through the supervisor) to all the examiners who made the remark as Category C. They will be given 4 weeks time to submit their reports on the new form.

If more than 4 weeks time is needed to arrive at the decision, the examiner may write to the Institute informing us of the need for more time. If the Institute does not hear back from the examiner in 4 weeks time, then the Institute will assume that the revisions are adequate, and have addressed the issues raised.

iv. The PhD defense of the student will be scheduled once all examiners have agreed that the thesis addresses the issues that they each have raised.

Note: The existing PhD evaluation form need not be changed.

Appendix-VI

Recommendations/Report by UGC

Senate Meeting, 30. December 2014

1. It is suggested to remove any reference to streams in the BTech(CSE) program (BTech(CSE) regulations, 3.3-3.6).

   Reason: The concept of streams had been introduced to give BTech students some guidance for course registration at the time when there were no senior batches or MTech programs. Some courses had been distinguished as contributing to a stream (area of expertise). By completing at least 12 credits of a stream this would be acknowledged in the final transcript with a respective footnote. While this was helpful for the early BTech batches, it later became challenging to maintain an updated list of stream courses, due to new courses evolving, and others not being offered anymore. On the other, IIIT-D now has established research groups and MTech programs with specialization, so that students have a rather clear view on which courses are essential to obtain expertise in a certain area. Therefore there seems to be no need to continue with the concepts of streams in CSE.

2. It is suggested to include BTP courses which are not completed to a full BTech project, in the count of maximal 8 credits that may be done with IP/IS/UR courses. For incomplete BTPs the transcript may contain a footnote that the particular BTP courses were not completed to a full BTech project.

   Reason: BTech Projects range over at least two semesters. The registration for the first BPT course has an implicit commitment that the BTP will be continued in the next semester. While there may be good reasons not to do so in particular cases, it has been observed that students start a BTP project in one semester, but then do not continue it in the next semester without discussion with the supervisor. For clarity and to avoid that discontinued BTPs are used to register for more project courses than permitted by the current regulations the above proposal is made.

3. In the 26th senate meeting, the credit requirement concerning the courses Environmental Sciences and Technical Communication had been reduced to 2 credits from formerly 4 credits. Accordingly, theses courses are offered in Winter Semester 2015 with 2 credits each for the current 2nd year BTech(CSE) batch . However, there are 48 students in this batch which have already completed a 4 credit of Environmental Science course in Monsoon Semester 2014. It is suggested to offer for these students a 2 credit course on Biology, and to let this be on a par with having cleared two credits of Environmental Sciences and 4 credits of science courses.

Annexure-II

Moderation of Grades

1. All grades will be moderated by a moderation committee appointed by the Senate. Grades are finalized only after approval by the moderation committee to be appointed by the Director.

2. Moderation will normally be done in a faculty meeting, where each instructor (or his/her nominee) will present the grades and explanations for the grading scheme. If for some reason this is not done, moderation will be done later by the moderation committee.

3. Normally the final moderated grades will be as agreed by the Instructors (for courses), evaluation committee (e.g. for BTP), all the supervisors, including external (e.g. for IP/IS/UR).

4. For courses taught, or projects guided, by guest / adjunct / external faculty, the final moderated grade will be what is decided in the moderation meeting based on inputs from the guest/adjunct/external faculty.

5. In case of any exceptional situation, the moderation committee will decide the final moderated grade after deliberations. The final grade awarded by the moderation committee in such an exceptional situation will be reported to the Senate, along with reasons for the same.

6. Some examples of exceptional situations are: a complaint that the grade being given by an instructor/supervisor is for non-academic considerations; supervisors for an IP/IS/UR are unable to provide a consensus grade; the grade distribution in a course is, in the opinion of the moderation committee, extremely skewed and justifications by the instructor are not sufficient; the grades for a course (inclusive of BTP/IS/IP/UR) were not moderated in the faculty meeting convened for the purpose etc.

Annexure-III

REPORT OF CONDUCT OF EXAMINATION

Please fill this form and submit to Academic Section after the examination

Course No:_____ Title:_____
Instructor:_____
Date of Examination _____ Duration _____Room No._____
No. of Invigilators (other than Instructors) _____
(i) Faculty_____(ii)Students:_____
No. of students in the course _____
No. of students present _____
List of students who were absent:

Roll No.	Name of the student

(a) Was there any kind of disturbances during the Examination? Yes/No
(If yes, please give a report at the back of the sheet)

(b) Was there any case of cheating? Yes/No
(If yes, please give details)

(c) Any other comments/observations/suggestions:

Signature of Instructor In-charge(s)

Annexure-IV

Course Offering Winter 2015

Course_Code	Title	Instructor 2014-15	Credits	No. of Students Registered
Core				
CSE102	Data Structures & Algorithms	Sandip Aine	4	170
CSE112/ECE112	Computer Organization	*Neeraj Goel (G)*	4	173
DES130	Intro. Engg. Design	Jyoti Sinha (V)	4	172
MTH201	Probability & Statistics	Richa Singh + Mayank Vatsa	4	169
BIO2xx	Introduction to Biology and its Quantitative Modeling	Subhadip Raychaudhuri	2	32
COM301A	Technical Communication (2 cr)	Hemant Kumar + Pankaj Jalote	2	153
CSE202	Fundamentals of Database Systems	Vikram Goyal	4	121
CSE222	Algorithm Design & Analysis	Rajiv Raman	4	127
CSE232	Computer Networks	Vinayak S Naik	4	118
ECE230	Fields and Waves	M S Hashmi	4	34
ECE214	Integrated Electronics	R N Biswas + Sujay Deb	4	40
ECE240	Principles of Communication Systems	Pravesh Biyani	4	34
MTH204	Math IV (Numerical Methods)	*S C S Rao (G)*	4	37
ESC205A	Environmental Sciences (2 cr)	*Suresh Jain (G)*	2	105
Elective				
BIO400/BIO600	Foundations of Biology - II (new)	Sriram K	4	50
BIO505	Introduction to Computational Neuroscience	Anubha Gupta	4	5
BIO5xx	Stochastic Simulations in System Biology and Biophysics	Subhadip Raychaudhuri	4	51
CSE233	Network Administration	Vinayak S Naik	2	34
CSE304	Practice of Programing (new)	Rahul Purandare	4	98
CSE322	Theory of Computation	Astrid Kiehn	4	22
CSE341/CSE541	Biometrics/Advanced Biometrics	Mayank Vatsa	4	13
CSE342/CSE542	Pattern Recognition	Richa Singh	4	39
CSE344/CSE544/ ECE344/ ECE544	Computer Vision	Saket Anand	4	11
CSE352/CSE552	Security Engineering (new)	Sambuddho Chakravarty	4	44
CSE501	Designing Human-Centred Systems	Ponnurangam K	4	94
CSE508	Information Retrieval	*Srikanta Bedathur*	4	35
CSE522	Verification of Reactive Systems	Astrid Kiehn	4	3
CSE530	Distributed Systems Security	H B Acharya	4	67
CSE638/ECE5WN	Wireless Networks	Sanjit kaul	4	3
CSE501A	Big Data Analytics	Vikram Goyal	2	17
CSE622	Introduction to Quantum Computing (new)	Debajyoti Bera	4	2
CSE635	Programming Cloud Services for Mobile Appications (new)	Pushpendra Singh	4	32
CSE560	GPU Computing (new)	Ojaswa Sharma	4	20

CSE561	Probabilistic Graphical Models (new)	Chetan Arora	4	51
CSE421/CSE621	Complexity Theory(New)	Debajyoti Bera	4	7
CSE602	Program Optimization	Apala Guha	4	12
CSE645	Digital and Cyber Forensics	*Robin Verma*	4	16
CSE694F	Multimedia Security	A V Subramanayam	4	82
CSE793A	Topics in Cryptanalysis	Donghoon Chang	4	14
DES302	Animation and Graphics	Manohar Khushalani (V)	4	40
ECE452/ECE552	Statistical Signal Processing (new)	Angshul Majumdar+ Saket Anand	4	17
ECE470/ECE670	Robotics	Jyoti Sinha	4	18
ECE516	System on Chip Design and Test	Sujay Deb	4	24
ECE539	Wireless System Implementation (new)	Vivek Bohara	4	22
ECE573	Advanced Embedded Logic Design (AELD)	Alexander Fell	4	24
ECE555S	Advanced Image Processing (new - 2 cr)	Angshul Majumdar	2	6
ECE528S	Special Topics RF Circuit Design (new - 2 cr)	M S Hashmi	4	13
ECE534	Optical Communication Systems(New)	Anand Srivastava	4	45
ECE431/ECE631	Antennas Theory and Design	Shobha Sundar Ram	4	22
ECE672	Stochastic Estimation and Control (new - 2 cr)	Sachit Butail	2	10
ECE5PDC	Principles of Digital Communication System (new)	Anand Srivastava	4	45
ECE535	Green Infromation and Communication Technology(new)	Sumit Darak	4	3
ECO302	Applied Econometric Analysis	Shreemoy Mishra	4	29
ECO303	Economics of Information and IT	Shreemoy Mishra	4	19
ENT402	Entrepreneurship as Career II	Hemant Kumar	2	7
HSS203	Introduction to the Study of Literature	*Honey Jhalani (G)*	4	33
HSS204	Introduction to Psychology	*Kailash Tuli (G)*	4	50
HSS205	Introduction to Sociology	Duru Arunkumar (G)	4	37
HSS208	Theory and Practice of Engineering Ethics	Raj Ayyar(V)	4	47
HSS212	Critical Thinking	Raj Ayyar(V)	4	44
HSS213	Issues in Contemporary World	*Uma Shanker Singh (G)*	4	76
HSS216	Positive Psychology	Akshay Kumar(V)	4	65
MTH303	Graph Theory	Samaresh Chatterji	4	36
MTH502	Number Theory	*Balkrishna Shetty (G)*	4	46
PHY3xx	Opto-Electronics (new)	*Subhash Chopra (G)*	4	85

Annexure-V

Late Drops Winter 2015

S.No.	Name	Roll No	Late Dropped Course
1	SAMIRAN ROY	2010073	COMPLEXITY THEORY
2	AAKANKSHA	2011001	MULTIMEDIA SECURITY
3	ANIRUDH JAYANT	2011019	Robotics
4	ARHAN SIBAL	2011031	STOCHASTIC SIMULATIONS IN SYSTEM BIOLOGY AND BIO PHYSICS
5	BRIJESH KUMAR GARG	2011036	DISTRIBUTED SYSTEM SECURITY
6	HARSHIT PANT	2011050	Neuro
7	JYOTSANA BHARDWAJ	2011059	MULTIMEDIA SECURITY
8	KUSHAGAR LAL	2011061	DISTRIBUTED SYSTEM SECURITY
9	NISHTHA CHOPRA	2011071	MULTIMEDIA SECURITY
10	PRERNA JAISWAL	2011081	PRACTICE OF PROGRAMMING
11	SAURABH ARYA	2011100	Neuro
12	Shivangi Mehra	2011103	ONLINE COURSE:FOUNDATION OF E-COMMERCE
13	SHUBHAM AGRAWAL	2011106	MULTIMEDIA SECURITY
14	SHUBHAM PANDEY	2011107	SECURITY ENGINEERING
15	AKHIL CHOUDHARY	2012012	OPTO ELECTRONICS
16	ASHISH KHATKAR	2012026	MULTIMEDIA SECURITY
17	ASHISH RAWAT	2012027	INDEPENDENT PROJECT
18	ISHAN MANJANI	2012041	ONLINE COURSE:FOUNDATION OF E-COMMERCE
19	ISHITA AHLAWAT	2012042	ONLINE COURSE:FOUNDATION OF E-COMMERCE
20	KANISHK RAWAT	2012047	PRINCIPAL OF DIGITAL COMMUNICATION SYSTEM
21	PARTH BATRA	2012070	DHCS
22	PRANAV CHHIKARA	2012074	DISTRIBUTED SYSTEM SECURITY
23	SHREYA KUMAR	2012100	ONLINE COURSE:FOUNDATION OF E-COMMERCE
24	SIDDHARTHO DAS	2012104	COMPUTER VISION
25	TARUN VERMA	2012112	COMPLEXITY THEORY
26	VAIBHAV GOSAIN	2012115	OPTO ELECTRONICS
27	VARNIKA SINGH	2012116	PATTERN RECOGNITION
28	AJAY PRATAP YADAV	2012125	OPTO ELECTRONICS
29	AMAN SINGHAL	2012127	Robotics
30	ARINDHAM CHUGH	2012129	OPTO ELECTRONICS
31	GARVITA ALLABADI	2012133	ONLINE COURSE:FOUNDATION OF E-COMMERCE
32	HARSH SOLANKI	2012135	NUMBER THEORY
33	PRAFULL BANSAL	2012148	Robotics
34	AJITANSHU SINGH	2013007	GRAPH THEORY
35	ANEESH DOGRA	2013014	GRAPH THEORY
36	ANKUR SINGH	2013019	NUMBER THEORY
37	ARJUN VERMA	2013022	THEORY OF COMPUTATION
38	ARUSHI JAIN	2013023	GRAPH THEORY

39	ASHISH AAPAN	2013024	GRAPH THEORY
40	ATUL JAIN	2013025	GRAPH THEORY
41	CHANCHAL PRAJAPATI	2013030	GRAPH THEORY
42	JALAJ PANDEY	2013043	GRAPH THEORY
43	KUNAL CHOUDHARY	2013053	GRAPH THEORY
44	MANAV BATRA	2013057	THEORY OF COMPUTATION
45	HAMMAD AKHTAR	2013060	GRAPH THEORY
46	MOHAMMED NAWAZISH	2013061	FOB-II
47	NAMAN GUPTA	2013064	FOB-II
48	PROTIGHI BASAK	2013075	GRAPH THEORY
49	SAMBHAV SATIJA	2013085	Intro to Biology and its Quantitative Modelling
50	SARANSH GUPTA	2013089	GRAPH THEORY
51	SUMIT KESWANI	2013111	THEORY OF COMPUTATION
52	GARVITA BAJAJ	MT12065	PROBABILISTIC GRAPHICAL MODELS
53	PAYAL SHARMA	MT13010	Digital Cyber Forensics
54	PRIYANKA BAWA	MT13012	SECURITY ENGINEERING
55	PRASOON	MT13047	PROGRAM OPTIMIZATION
56	PRIYANKA SINGHAL	MT13048	PRACTICE OF PROGRAMMING
57	RITIKA-ATAL	MT13103	BIG DATA ANALYTICS(BDA)
58	SONAM RATHORE	MT13108	BIG DATA ANALYTICS(BDA)
59	KISHORE SINGH RAWAT	MT13127	AELD(ADVANCE EMBEDED LOGIC DESIGN)
60	SANJEEV BAGHORIYA	MT13161	GRAPH THEORY
61	ANINDYA SRIVASTAVA	MT14035	Robotics
62	ANTARA GANGULY	MT14057	GPU PROGRAMMING

Annexure VI

Grade Changes Monsoon 2014

S. No.	Course	Course Code	Faculty	Student whose grades have been changed	Grade Change Details
1	Independent Study	CSE790	Pankaj Jalote	Monika Gupta	X to B
2	Applied Cyptrography	CSE546	Somitra Kr.Sanadhya	Aarushi Chawala(2012002)	B to B-
				Akshima(2012014)	A- to A
				Alakh Dhru(2012016)	A- to A
				Ashwin Mathew(2012028)	B- to B
				Chaitanya Kumar(2012031)	B to B-
				Tarun Verma(2012112)	B to B-
				Kritika Mittal(MT14039)	B to B-
3	M.Tech Thesis	CSE699	Ms.Jyoti Sinha	Kishore Singh Rawat(MT13127)	X to I to S
4	Biophysics	BIO3BP/B105BP	Arnab Bhattacherjee	Mallika Alok Agarwal(2013055)	C to B-
				Ishan Sharma(2013041)	C to B-
				Manan Wason(2013056)	C- to C
5	Smart Electronics System	ECE574	Narang.N.Kishore	Manish.Kumar(2012142)	B to A-
				Pulkit.Sharma(MT4066)	A to A-
6	Contro Theory	ECE570	P.B.Sujit	Ajay Prakash Yadav	C- to C
7	Maths III	MTH203	Samaresh Chatterji	Puneet Jain(2013150)	A- to A
8	Intro to Programming	CSE-101	Dr.HB Acharya	Richa Chaudhary(2014154)	F to D
				Kunal Lal(2013054)	F to D
				Vineeta Chaudhary(2012119)	I to C
				Akash Gautam(2013008)	F to D

Annexure VII

List of students Graduated in Dec 2014

S.No.	Roll No.	Name	Programme
1	2009056	Aditya Kumar	BTech(CSE)
2	2010014	Anirudh Chakravorty	BTech(CSE)
3	2010049	Mithil Gupta	BTech(CSE)
4	2010077	Saurabh Yadav	BTech(CSE)
5	MT12004	Aritra Dhar	MTEch(CSE)
6	MT12017	Rohit Jain	MTEch(CSE)
7	MT12021	Vishesh Narwal	MTEch(CSE)
8	MT12033	Ambreen Bashir	MTEch(CSE)
9	MT12034	Aniya Aggarwal	MTEch(CSE)
10	MT12039	Kanchan Arora	MTEch(CSE)
11	MT12040	Kongara Amani	MTEch(CSE)
12	MT12042	Lovey Agarwal	MTEch(CSE)
13	MT12071	Priyanka Singh	MTEch(CSE)
14	MT12074	Samit Anwer	MTEch(CSE)
15	MT12100	Rahul Kumar Shah	MTEch(ECE)
16	PhD1107	Trasha Gupta	MTEch(CSE)

Annexure-VIII

B.Tech ECE Structure

PROPOSED

I Year		II Year	
Monsoon	**Winter**	**Monsoon**	**Winter**
IP	DSA	ELD	F&W
DC	**S&S**	**Circuit/Network Theory**	**Electronic Circuits**
ECO	**BIO**	**PCS**	**DCS**
Math-1	Math-2	Math-3	Math-4
IED+Comm	**IED+Comm**	HSS	ENVS + TCOM

Note: CO/OS should be available to ECE students (generally in 5^{th} & 6^{th} Semester)

INDRAPRASTHA INSTITUTE of INFORMATION TECHNOLOGY DELHI

Okhla Industrial Estate, Phase III
New Delhi 110020
www.iiitd.ac.in

Regulations for the Dual Degree Program inComputer Science and Engineering (CSE) and Electronics & Communications Engineering (ECE)

1. Preamble

Dual degree programs are common in India and most IITs have it. The main motive behind such a program is to have some of the UG students of an Institute do their MTech in the same Institute, so the Institute can leverage the training it had provided and the seamless transition into the MTech program to benefit its research activity, as well as reduce the duration for earning the MTech degree. Most dual degree programs allow for both degrees to be earned in five years. IIIT-D's dual degree program follows a similar approach as many other Institutions.

2. Admission and Requirements

2.1 A student may opt for migrating to the dual degree program anytime before the add/drop date of his/her 7th semester in the BTech program. Only students with CGPA of 7.0 or above at the time of applying are eligible for the program.

2.2 Application process for dual degree will be as defined. Selection will be done as defined.

2.3 Any extra course credits earned during the BTech program beyond what is required for the BTech degree, up to a maximum of 12 credits, may be counted towards course credit requirements for the MTech degree. So, a student can do extra courses in 3rd and 4th year (as Honors students do), and get these credits counted towards satisfying the MTech course credit requirements, provided the courses are such that they can be counted for MTech.

2.4 As the student have undergone the BTech program of IIIT-D and so has the necessary background and strength in foundations, up to 12 credits of core course requirement of the MTech program, which is designed to impart some core knowledge to students, is deemed to be satisfied, and the same is waived for the dual degree students for earning their MTech.

2.5 A dual degree student will be considered as a BTech student till the time he/she completes the requirements for the same; thereafter he/she will be considered as an MTech student. The date for each degree will be based on the date of completing the requirements for that degree.

2.6 The dual degree student must spend at least two semesters as an MTech student.

2.7 A dual degree student must do an MTech thesis, which may be a continuation of the work done in BTP.

2.8 If the specialization requirements are met, then the dual degree student can apply for specialization as well.

3. Notes

3.1 The fee for the MTech portion of the dual degree program will be half of regular MTech fee.

3.2 The dual degree student will not be eligible for campus placement in his/her BTech portion, and will be eligible only in his/her last year to use placement services.

3.3 If a student does 12 credits extra in 3rd/4th years, as allowed, he/she will have to do 8 credits more in the 5th year, and at least 16 credits of MTech thesis, for the MTech degree. The minimum number of credits for M.Tech.part under Dual Degree program is 36.

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3.4 After declaration of 8th semester results the student should specify which courses should count for B.Tech. and which for the M.Tech. degree.

3.5 Students should be encouraged to take GATE in their 4th year to benefit from the scheme.

3.6 It is clarified that after admission to Dual Degree program the student is ineligible for placement. No refund of fee will be made if he / she does not join except if he/she goes for higher studies in which case some amount is deducted (the amount to be deducted will be decided by the Competent Authority).

3.7 On completion of B.Tech. requirements, the B.Tech. degree may be given on submission of No Dues Certificate.

3.8 If he/she cannot complete the M.Tech. part of the Dual Degree program no fee refund can be made.

Change History:

July, 2014: It is clarified that:

(i) the dual degree program is for both CSE and ECE

(ii) a student can opt for BTech (Honors) – i.e. clause that Honors cannot be done is removed.

(iii) If the specialization requirements are met, then the dual degree student can apply for specialization as well.

August 2014:

Points related to refund of fee and issue of B.Tech. degree on completion of degree requirements clarified vide paras 3.6,3.7 and 3.8.

Annexure-X

S.No.	Course	Instructor	No. of Registered Students	No. of Classes in Winter 2015 Semester	Attendance initiated in week 09			
					Approx Classes from Week 09	Total Attendance Taken from Week 9 till Date	No. of Classes yet to happen	Average Attendance of the class
1	CSE102-Data Structures and Algorithms	Sandip Aine	170	39	18	12	4	53.28
2	CSE112-Computer Organisation	Neeraj Goel	173	26	12	4	3	42.2
3	DES130-Introduction to Engineering Design	Jyoti Sinha	172	26	12	4	2	48.4
4	MTH201-Probability and Statistics	Richa Singh & Dr. Mayank Vatsa	169	39	18	9	4	46.15
5	CSE222-Analysis and Design of Algorithms	Rajiv Raman	127	39	18	5	5	41.1
6	CSE232-Computer Networks	Vinayak Shashikant Naik	118	39	18	10	5	28.31
7	CSE202-Fundamentals of Database Systems	Vikram Goyal	121	26	12	9	2	32.06
8	ESC205A-Environmental Sciences	Suresh Jain	105	13	12	4	3	75
9	CSE202-Fields & waves	M S Hashmi	34	13	12	6	2	47.55
10	ECE214-Integrated Electronics	R.N Biswas & Sujay Deb	40	26	12	3	3	43.33
11	MTH204- Maths IV	SCS Rao	37	26	12	Attendance not taken		
12	ECE240-Principles of Communication Systems	Pravesh Biyani	34	26	12	3	3	81.37
13	COM301A- Technical Communiaction	Hemant kumar & Pankaj Jalote		Attendance not required				

Annexure-XI

Concept note on

MTech in Computational Biology

Motivation

The genomic revolution in biology enables one to answer many questions in medical sciences like the etiology of diseases and paves way for personalized medicine. However, answers to these questions are impossible without the support of powerful computational and statistical tools that helps to understand and uncover the underlying systems level regulatory mechanisms (such as network design principles) responsible for diseases. With the advent of new biotechnological techniques, massive amounts of genomics data are generated at a rapid pace from the experiments and analysis of these data requires tremendous amount of domain knowledge, solid computational background with good programming skills. This has led to the development of a highly interdisciplinary field of Computational Biology and Bioinformatics which consists of a good amount of understanding of molecular biology, genomics, algorithms, programming, statistical computation, machine learning, stochastic processes, and other mathematical techniques that underlie biological design principles.

For developing skilled manpower for this field, an interdisciplinary program is needed which combine suitable aspects of biology, algorithms, statistical tools and mathematical models to analyze large-scale genomic and biological data in one program in a focused and strategic manner.

Currently few Institutions have strength and capability to offer interdisciplinary education in this area. IIIT-Delhi, with its strong focus on research, and with a good faculty in various CS and EE as well as Computational Biology, is well suited to offer such an interdisciplinary program of computing and biology. The proposed MTech program aims to train students in the key aspects of computing, bio informatics, and analysis of biological systems through the use of modeling and analytics.

Where the Graduates of this Program will be placed

This program fills a vacuum by creating manpower that can solve biology problems using computational techniques and data. Such manpower is needed in companies in life sciences, as they are generating large amounts of data and need manpower that understands the data and can apply computational techniques to analyze it and answer questions. Examples of such companies are Nucleome Informatics Pvt Ltd. http://www.nucleomeinfo.com (provide bioinformatics solutions to academic and industrial customers), Cellworks: http://cellworksgroup.com (systems biology approach to diseases and therapy), etc.

As student is building strength in computer science, as well as mathematical modeling through the biology courses, they can also find opportunities in IT companies that provide services and solutions to companies working Life Science, Medicine, etc. These can include: TCS Life Sciences,StrandGenomics,ibtech:http://www.ibtechnology.com/and http://www.optrahealth.com)(Healthcare IT)

An important career option for graduates of this program will be in Research – pursuing a PhD and then going for a research career. This is one of the most exciting possibilities, as R&D in Computational Biology and Life Sciences in general has great potential. Graduates of this program should be sought after by many computational and systems biology research groups across the world, including India. (To facilitate this option, the Institute will write to top departments in India and across the world and inform them about the strength of our program.)

Structure of the Program

The program will focus on strengthening key computer science capabilities needed for solving biology problems, and in developing skills in bio-informatics, techniques for modeling biological systems, analysis approaches for biological data, etc.

As this is an interdisciplinary program, it will have two basic courses in Computing and Biology to build the foundations in the two disciplines. These courses will be compulsory but will not count towards the credit requirement. These are:

- One intensive refresher course that will focus on strengthening the background in **Programming and Data Structures**. (Most likely during the summer before the start of the first semester.)

- In their first semester, a course on "**Foundations of Modern Biology**" will be offered.

In the MTech program, the student will do 8 courses (in addition to the courses mentioned above) and a Thesis. The program will have 3 courses in computer science, which will strengthen capability in key areas of algorithms, programming, and parallel computing. These CS course are:

CORE COURSES FROM CS

1. **Graduate Algorithms** (maybe with some Special Reading on Bioinformatics Algorithms)
   This course will deal with algorithm and complexity, greedy algorithms, exhaustive search algorithms, dynamic programming, divide and conquer algorithms, search trees, combinatorial pattern matching and randomized algorithms applied to molecular biology.

2. **Advanced Programming /practice of programming**

3. **High Performance computing /Machine Learning/Databases/Big-Data analytics**

The student will have to do 5 courses in Computational Biology – 2 or 3 will be compulsory and others will be electives. The required CB courses are **[tentative]**:

CORE COURSES FROM BIO

1. **Algorithms for Molecular Biology** (mostly to cater CSE) (**OR) Practical Bioinformatics** (non-CSE)

   (This course will provide practical hands on experience to analyze large scale data sets that comes from genomics. This course deals specifically with introduction to genomics, comparative genomics, evolution and genomic changes, Mapping sequencing and annotation of databases, NextGen sequencing, and network biology.)

   Possibly a course on Foundations to provide background for Sys Bio and other courses. This is given as foundations of cell biology and biochemistry. The contents are given below.

2. **Foundations of cell biology and biochemistry**

   This course consists of two parts; cell biology and biochemistry. Biochemistry is a quantitative science that requires good understanding of both descriptive and mathematical aspects of the subject. In this course cellular foundations like types of cells, chemical bonds, stereochemistry, chemical kinetic principles, biological thermodynamics, enzyme catalysis, ultrasensitivity, membrane structure and lipids, metabolism, and principles of cellular signaling and cell communications will be covered.

3. **Systems and Synthetic Biology**

   (This course will provide design principles governing biological networks. This includes introducing network motifs like feedforward and feedback loops that occurs recurrently in biological networks, gene regulatory networks, signal transduction network, chemotaxis, robustness and evolvability and introduction to mathematical modeling of these phenomena.)

4. **Mathematical modeling of biological systems** (called Intro to Mathematical Biology)

   The aim of this course is to introduce mathematics as applied in quantitative study of biological systems. Both exact and numerical solution of differential equations (ordinary and partial) will be discussed. Dynamical systems theory based analysis will be taken up. We will use these mathematical tools to address problems in basic biology as well as in technological applications.

ELECTIVE COURSES

The elective courses are given below – this list will change and expand over time.

1. **Algorithms for Molecular Biology OR Practical Bioinformatics** -- whichever is not taken as core. This is expanded earlier.

2. **Stochastic Simulations in Systems Biology and Biophysics**

   This course will introduce students to stochastic simulation techniques as used in solving problems in biology and immunology. Topics include theoretical basis of stochastic simulations, master equations, Monte Carlo simulations (as a tool to obtain solution of master equations) and single cell data analysis. Emphasis will be on kinetic Monte Carlo approaches that capture stochastic dynamics and cell-to-cell variability. We will discuss how single cell approaches (including single

cell genomics) are utilized in addressing important biomedical problems (such as in personalized medicine).

3. **Computational Drug Design**

   This course will teach how to solve practical problems in pharmacology, life sciences and bioinformatics using free software and databases relating to the structure of functional proteins and drug targets. The course will cover: Alignment sequences, database searching, techniques for prediction of secondary protein structure with computational tools and review of the Pfam and PROSITE databases. Techniques and methods for prediction of protein 3D structure: Background of molecular modeling and energy minimization. Tools for homology modeling of protein 3D structure and methods for validation of 3D structures. Practical exercises with the MODELLER software and structure validation with PROCHECK. The physical basis for molecular dynamic simulation.Exercises on molecular dynamic simulations of proteins with Gromacs.Molecular docking and drug screening. Tools and applications relating to computer-aided drug design. Practical exercises with Autodock.

4. **Computational Neuroscience** (Bioimaging like fMRI is introduced)

   This course is introduced to understand neuronal networks from dynamical systems point of view. Properties of single neurons and network of neurons will be understood through the traditional Hodgkin-Huxley models and its variants. This course also provides an understanding of various concepts like long-term potentiation, long-term depression, and their relationship to formation of memory etc.

5. **Biostatistics-**The course contents for biostatistics has to be decided. We may include something related to machine learning like data driven modeling.

6. **Molecular Modeling and Biological Physics**

   This course will provide an introduction to various techniques adopted in molecular modeling and computational biology and illustration of how these techniques may be used to study different biological phenomena. A major objective is to introduce molecular mechanics and molecular simulation techniques such as Molecular Dynamics(MD) and Monte Carlo (MC) methods to sample conformational space. The analysis of simulation results and how the thermodynamic and kinetic behavior of the systems of interest can be extracted will be discussed through statistical mechanics approach. These techniques are widely used to study interactions of biomolecules at various degrees of details and the knowledge of which provides critical insights in designing denovo drug molecules to combat lethal diseases..

Thesis: Student will be required to do a thesis in Computational Biology – there is no scholarly paper option.

MINOR PROGRAM FOR BTech

Note: A subset of these courses will be used for Minor program in CB for BTech students.

Intake of students for MTech(CB) program

Intake in interdisciplinary program is always a challenge. Often an interdisciplinary program can benefit from taking students from different backgrounds. As the program focuses on CB, but will build sufficient CS background for graduates to use CS tools and techniques for CB problems, it will require some background in these areas. It will be best if the incoming students have: (i) decent programming knowledge, (ii) good math background, and (iii) some bio/chem background.
With this, the eligibility criteria for this program is proposed as:

All the applicant must have a valid GATE score. They must have a BTech/BE in CS/IT/Math-and-Computing or in any discipline like Chemical Engineering, Biotech, etc., with CGPA of at least 6.0 out of 10 or 60% in all degree, and have done in their Bachelor or Masters :

- At least one computer programming course, and
- At least two Mathematics courses, and
- At least two courses in chemistry/biology/Biochemistry (or similar subject)

The students should have cleared the competitive GATE/UGC-CSIR examinations, and have at least got 60% in their under graduate programs.

IIIT-Delhi provides relaxation to SC, ST, OBC, PwD and CW category candidates. They must have CGAP of 5.5 out of 10 or 55% in all degree.

Fee Waiver and Scholarships

The institute will reduce the overall MTech fee by half for students in the first batches. The Institute hopes to find scholarships for students through DBT.