



Central University of Himachal Pradesh

(ESTABLISHED UNDER CENTRAL UNIVERSITIES ACT 2009)

Dharamshala, Himachal Pradesh-176215



NAAC Criterion-I

Key Indicator – 1.2.2

**Structure of the program clearly indicating
the course as approved by competent
Board of studies**

1.2.2 Evidences



**Department of Computational Biology and Bioinformatics
Central University of Himachal Pradesh, Dharamshala,
Kangra**



हिमाचल प्रदेश केंद्रीय विश्वविद्यालय
Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
अस्थाई शैक्षणिक खण्ड, शाहपुर, ज़िला काँगड़ा, हिमाचल प्रदेश – 176206
Temporary Academic Block, Shahpur, Distt. Kangra (HP) - 176206
Website: www.cuhimachal.ac.in

File No: LS/1-5(Vol.II)/CUHP/12/

Dated:

Centre for Computational Biology and Bioinformatics

School of Life Sciences

Minutes of the 5th Board of Studies meeting held on 23rd August, 2018

The meeting of the 5th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 23rd August, 2018 at 10:30 AM in the Committee Room, Central University of Himachal Pradesh, Temporary Academic Block, Shahpur. Prof. Ambrish Kumar Mahajan, Director, Centre for Computational Biology and Bioinformatics and Dean, School of Life Sciences welcomed all the Hon'ble members.

Following members attended the meeting:

- 1. Prof. Ambrish Kumar Mahajan – Chairman and Convener**
Director, Centre for Computational Biology & Bioinformatics and Dean, School of Life Sciences, Central University of Himachal Pradesh, Temporary Academic Block, Shahpur.
- 2. Prof. Sukesh C. Sharma – Subject Expert**
Department of Biochemistry, Punjab University, Chandigarh
- 3. Prof. Duni Chand – Subject Expert**
Department of Biotechnology, Himachal Pradesh University, Shimla.
- 4. Prof. Mushtaq Ahmed – Vice Chancellor's Nominee**
Professor, Department of Environmental Sciences, School of Earth and Environmental Sciences, Central University of Himachal Pradesh, Temporary Academic Block, Shahpur.
- 5. Dr. Vikram Singh – Member**
Assistant Professor, Centre for Computational Biology and Bioinformatics, School of Life Sciences, Central University of Himachal Pradesh, Temporary Academic Block, Shahpur.
- 6. Dr. P. Aparoy – Special Invitee**
Assistant Professor, Centre for Computational Biology and Bioinformatics, School of Life Sciences, Central University of Himachal Pradesh, Temporary Academic Block, Shahpur.

Following Decision were taken in BOS meeting as per the Agenda.

Agenda Item No. – CBB-BOS-5/18-1

Approval of the Minutes of the 4th Board of Studies meeting held on 28.09.2017

Decision:

All members agreed and approved the Minutes of the 4th Board of Studies meeting held on 28.09.2017.

Agenda Item No. – CBB-BOS-5/18-2

Review of Course Catalogue and Insertion of New Courses for the M.Sc. Computational Biology & Bioinformatics and Research Degree Program

In accordance with the draft ordinances number 4, Section 23 and Statute 16(2) of the Central Universities Act 2009, point number 4(a), the Director of the Centre for Bioinformatics and Computational Biology places before the members of the board for their approval of the additional courses that are to be included in CDC of the masters and research programs. The list of courses, respective course code, credits and level are as follows-

S. No.	Course Code	Course name	Credits
1	CBB 538	Data Science	02
2	CBB539	R for Data Science	02
3	CBB540	High Throughput Sequencing: data analysis and application	04

Decision:

All members agreed and approved the list of above new courses with minor modifications.

Agenda Item No. – CBB-BOS-5/18-3

Approval of course curriculum of M.Sc. CBB in the CBCS format as given in **Annexure 1**.

Decision:

All members agreed and approved the list of above new courses with minor modifications.

Agenda Item No. – CBB-BOS-518-4

Approval of synopsis of following Ph.D. Scholars

Sr. No.	Name of the Student	Roll No.	Name of the Supervisor
1.	Mr. Dixit Sharma	CUHP15RDCBB01	Dr. Shailender Kumar Verma
2.	Mr. Vikram Singh	CUHP15RDCBB06	Dr. Vikram Singh

Decision:

All members agreed and approved it. Experts also made a suggestion that in future, synopsis of the students shall be approved within the time limit as specified by the UGC regulations during the enrolment of the student. The members also felt that since in Science subjects, title of the synopsis is subject to some modifications depending on the scientific output and that can be under taken before submission of the thesis.

Agenda Item No. – CBB-BOS-5/18-5**Approval of List of Experts as Examiners**

In accordance with the draft ordinances number 4(i), Section 23 and Statute 16(2) of the Central Universities Act 2009, point number 4(b) i and ii, the Director of the Centre for Bioinformatics and Computational Biology places before the members of the board for their approval, the list of examiners for various evaluation purposes.

The lists of examiners are as follows-

S. No.	Name	Address	Email
1.	Prof. Bhushan Patwardhan	Director, Interdisciplinary School of Health Sciences, Savitribai Phule Pune University, Ganeshkhind Pune - 411 007	bhushan@unipune.ac.in
2.	Prof. Parbati Biswas	Department of Chemistry, University of Delhi, Delhi-110007	pbiswas@chemistry.du.ac.in
3.	Dr. Avinash Chand Yadav	Department of Physics & Astronomical Sciences, School of Basic & Applied Sciences, Central University of Jammu, Samba-181 143, J&K, India	jnu.avinash@gmail.com avinashyadav@cuajammu.ac.in
4.	Dr. Awadhesh Prasad	Office Room No. – 177, Multistoried Building, Department of Physics and Astrophysics, University of Delhi, Delhi-110007	awadhesh@physics.du.ac.in , awadhesh.prasad@gmail.com
5.	Dr. Hemant Rituraj Kushwaha	School of Biotechnology, Jawaharlal Nehru University, New Delhi - 110067	hemantkushwaha@jnu.ac.in , rutturajhemant@gmail.com
6.	Dr. Karnati Raja Ram Mohan Roy	Department of Animal Biology, School of Life Sciences, University of Hyderabad Prof. CR Rao Road Hyderabad - 500046	roykarnati@uohyd.ac.in
7.	Prof. Krishnaveni Mishra	Department of Biochemistry School of Life Science University of Hyderabad, Prof. C.R.Rao Road, Gachibowli, Hyderabad, 500046, India	kmsl@uohyd.ernet.in , krishnaveni.mishra@gmail.com
8.	Dr. Poosarla V.Giridhar	Assistant Professor Microbiology and FST (Food Science & Technology) Department Gitam Institute of Science Gandhi Nagar, Rushikonda, Visakhapatnam-530 045	giridhar.poosarla@gitam.edu , pvgdhar@gmail.com
9.	Dr. Debashis Barik	Assistant Professor School of Chemistry University of Hyderabad Gachibowli, Hyderabad, 500046, AP, India	dbariksc@uohyd.ac.in barikdd@gmail.com
10.	Dr. Sairam Swaroop	Assistant Professor, Chemistry, IIT-Gandhinagar	msairam@iitgn.ac.in

	Mallajosyula	Palaj, Gandhinagar - 382355,	
11.	Prof. Rajeswari R. Moganty	Department of Biochemistry, All India Institute of Medical Sciences, New Delhi-110029, India	rajeswari3011@hotmail.com

Decision:

All members agreed with the above list of examiners as proposed. It is also suggested that the list will be updated regularly by the faculty members of the Centre for Computational Biology and Bioinformatics (CCBB) with the consent of the Director, CCBB and the same will be reported in the next meeting of BoS.

Agenda Item No. – CBB-BOS-5/18-6

Modification of the Ph.D. topic, Objectives and Synopsis of Mr. Gagandeep Singh and extension of the registration for one year as per his request and recommendation of his Ph.D. Supervisor.

Decision:

Mr. Gagandeep Singh, Ph.D. Student in the Centre for Computational Biology and Bioinformatics (Enrolment No. CUHP12RDCBB03) under the supervision of Dr. Vikram Singh, Assistant Professor shall complete six years onw.e.f. the date of his registration in the University. He requires at least one year more for the submission of his Ph.D. thesis and hence has requested for extension period of one more year w.e.f. on health basis. Clause 3.3 of Ordinance 42 of Central University of Himachal Pradesh states, "Under special circumstances, extension beyond six years may be granted on genuine grounds by the Vice Chancellor for one more year." In terms of the above mentioned clause of the Ordinance, the BoS on the request of the candidate and recommendation of the Research Supervisor, hereby, recommends for the approval of the Hon'ble Vice Chancellor the extension period of one year w.e.f. for the submission of thesis to Mr. Gagandeep Singh.

Agenda Item No. – CBB-BOS-5/18-7

Modification of the Ph.D. topic, Objectives and Synopsis of Mr. Ashish and extension of the Registration for one year as per his request and recommendation of his Ph.D. Supervisor.

Decision:

Agenda Item No. – CBB-BOS-5/18-8

Any item with the permission of the Chair: No item has been taken

The meeting ended with a vote of thanks by the chair.

Dr. P. Aparoy

Dr. Vikram Singh

Prof. Mushtaq Ahmed

(Special Invitee)

(Member)

(VC's Nominee)

**Prof. Sukesh C. Sharma
(Subject Expert)**

**Prof. Duni Chand
(Subject Expert)**

**Prof. Ambrish Kumar Mahajan,
(Chairman and Convener)**



हिमाचल प्रदेश केंद्रीय विश्वविद्यालय
Central University of Himachal Pradesh

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अस्थायी शैक्षणिक खण्ड, शाहपुर, जिला काँगड़ा, हिमाचल प्रदेश - 176206

Temporary Academic Block, Shahpur, Distt. Kangra (HP) - 176206

Website: www.cuhimachal.ac.in

File No: LS/1-5/ CUHP/12/01

Dated: 18/09/2020

MINUTES

The 6th Board of Studies (BoS) meeting of Centre for Computational Biology and Bioinformatics was held on 18th September, 2020 at 11:00 AM at Central University of Himachal Pradesh, Temporary Academic Block, Shahpur. The following were present:

1.	Dr. Mahesh Kulharia, Director, Centre for Computational Biology and Bioinformatics, School of Life Sciences	CONVERNER & CHAIRMAN	Offline Mode
2.	Prof. Birj Mohan, Ret. Professor, Chaudhary charan kumar Himachal Pradesh Agriculture University	SUBJECT EXPERT	Online Mode
3.	Prof. Desh Deepak Singh, Professor, Department of Biotechnology, Punjab University,	SUBJECT EXPERT	Online Mode
4.	Prof. Pardeep Kumar, Dean, Professor, Department of Plant Sciences, School of Life Sciences	MEMBER (VC NOMINEE)	Offline Mode
5.	Dr. Sunil Kumar, Associate Professor, Department of Animal Sciences, School of Life Sciences	MEMBER (VC NOMINEE)	Online Mode
6.	Dr. Shailender Kumar Verma, Assistant Professor, Centre for Computational Biology and Bioinformatics, School of Life Sciences	MEMBER	Offline Mode

The Director, Centre for Computational Biology and Bioinformatics (Convener & Chairman), School of Life Sciences welcomed all the members and thanked them for being available for attending this meeting.

**Minutes of the 6th BOS meeting of Centre for Computational Biology and Bioinformatics
Held on 18th Sep 2020**

ITEM NO: CBB-BOS-6/20-1: Approved the Minutes of the 5th Meeting of the Board of Studies held on 23rd August, 2018.(Annexure-I)

ITEM NO: CBB-BOS-6/20-2: Recommended the Change from nomenclature of the Centre for Computational Biology and Bioinformatics to Department of Computational Biology and Bioinformatics.

ITEM NO: CBB-BOS-6/20-3: Scrutinized, modified and approved the modified list of courses and syllabi to be taught/offered in the coming academic session (for 2020 Batch onwards) for the M.Sc. Centre for Computational Biology and Bioinformatics Sciences program in the CBCS format. (Annexure-II)

ITEM NO: CBB-BOS-6/20-4: Approved the list of courses to be taught/offered and syllabi for the course work of Research Degree students of the Centre for Computational Biology and Bioinformatics Sciences. (Annexure-III)

ITEM NO: CBB-BOS-6/20-5: Accredited the Faculty Member i.e. Dr. Mahesh Kulharia, Associate Professor, Centre for Computational Biology and Bioinformatics to become Ph.D. Supervisor/Guide.

ITEM NO: CBB-BOS-6/20-6: Approved of the allotment of Supervisor/Guide for the Ph.D. Scholars.

Sr. No.	Name of Student	Roll. Number	Name of Supervisor
1.	Mr. Ashish Panghalia	CUHP17RDCBB01	Dr. Vikram Singh
2.	Ms. Himisha Dixit	CUHP17RDCBB02	Dr. Shailender Kumar Verma
3.	Ms. Deepanshi Awasthi	CUHP20RDCBB01	Dr. Vikram Singh
4.	Ms. Shilpa Chauhan	CUHP20RDCBB02	Dr. Shailender Kumar Verma
5.	Ms. Varuni Bhardwaj	CUHP20RDCBB03	Dr. Mahesh Kulharia
6.	Mr. Virender Kumar	CUHP20RDCBB04	Dr. Shailender Kumar Verma

ITEM NO: CBB-BOS-6/20-7: Approved the RAC of Ms. Himisha Dixit and Mr. Ashish Panghalia.

Sl. No.	Name of the Student	Registration No.	Constitution of RPMC/RAC
1.	Mr. Ashish Panghalia	CUHP17RDCBB01	1. Head of the Department-Ex-Officio Chairman 2. Dr. Vikram Singh-(Research Supervisor)- Convener 3. Dr. Dilbag Singh- Subject Expert
2.	Ms. Himisha Dixit	CUHP17RDCBB02	1. Head of the Department-Ex-Officio Chairman 2. Dr. Shailender Kumar Verma-(Research Supervisor)- Convener 3. Dr. Tarkeshwer- Subject Expert

ITEM NO: CBB-BOS-6/20-8: Approved (Post facto) the allotment of Dissertation study semester (M.Sc. CBB).

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Sr. No.	Name of Students	Roll No.	Title of the Thesis	Name of the Supervisor
1.	ASHITA SOOD	CUHP18CBB02	Atomistic structural determination of CALHM2 through in-silico techniques"	Dr. Mahesh Kulharia, Associate Professor
2.	DIKSHA TANTA	CUHP18CBB03	Protein-protein Interactions based study to analyze their importance as an effective drug targets	
3.	ISHIKA	CUHP18CBB04	To Create the drug molecule that can block PfHT1 (Plasmodium Falciparum Hexose Transporter 1) or its Homologs in other Plasmodium species.	
4.	PUSHPENDER SINGH CHANDEL	CUHP18CBB011	MD Simulation of Ebola virus Vp24 protein	
5.	ANKITA CHAUHAN	CUHP18CBB01	Network scale exploration of miRNA mediated regulation in Epilepsy associated COVID-19	Dr. Vikram Singh, Assistant Professor
6.	PUSHPESH DHIMAN	CUHP18CBB12	Comparative flux balance analysis of MERS, SARS and SARS-CoV-2 genomes	
7.	RADHIKA JOSHI	CUHP18CBB13	Aspects of genome scale evolution of SARS-CoV-2 and its protein interaction network with human-miRNAs	
8.	SHILPA PATHANIA	CUHP18CBB14	"Construction and analysis of SARS-CoV-2 protein interaction network with miRNAs associated with Glaucoma and Keratoconus"	
9.	NISHA VERMA	CUHP18CBB08	In silico structural analysis, physiochemical haracterization and structure prediction of Triticum aestivum Iron Regulated Transporter 1 (IRT1) Protein	Dr. Shailender Kumar Verma, Assistant Prof
10.	PRATIBHA SHARMA	CUHP18CBB09	Identification and Classification of ABC transporter proteins of Xanthomonas oryzae_BB151-3	

(Handwritten signatures and marks)

11 students

1.	PRIYANKA CHOUHARY	CUHP18CBB10	Bioinformatics functional characterization of hypothetical proteins of Chlamydia pistacci strain Ful127 to discover potential drug targets
12.	SHIVALI KASHYAP	CUHP18CBB15	Phylogenetic Analysis of ATP-Binding Cassette Transporter (ABC) Gene in Xanthomonas translucens strain 569

ITEM NO: CBB-BOS-6/20-9: Approved the Academic Activity Schedule of the Centre for Computational Biology and Bioinformatics. (Annexure-IV)

ITEM NO: CBB-BOS-6/20-10: Approved the updated list of External Examiners for conducting practical /M.Sc. Dissertations Examinations and of the Centre for Computational Biology and Bioinformatics Sciences. (Annexure-V)

ITEM NO: CBB-BOS-6/ 20-11: Approved (Post facto) the title, objectives and synopses of the Ph.D thesis of Mr. Gagandeep Singh, CUHP12RDCBB03. (Annexure-VI)

Sr. No.	Name of Students	Roll No.	Title of the Thesis	Name of the Supervisor
1.	Gagandeep Singh	CUHP12RDCBB03	In-silico studies on systems scale characterization of Camellia sinensis (tea) using transcriptomic and genomic data	Dr. Vikram Singh, Assistant Professor

ITEM NO: CBB-BOS-6/20-12: Approved the proposal for initiating the Advance Diploma in Bioinformatics as 1 year (2 semester) course by the Centre for Computational Biology and Bioinformatics in self-financing mode. The funds thus generated will be used for the upgradation of the research facilities of Centre for Computational Biology and Bioinformatics.

ITEM NO: CBB-BOS-6/20-13: Scrutinized, modified and approved the list of courses and detailed syllabi to be taught/offered in the next academic session (for 2021 Batch onwards) for the Advance Diploma in Bioinformatics. (Annexure-VII).

ITEM NO: CBB-BOS-6/ 20-11: Approved (Post facto) the list of courses to be taught/offered and syllabi for the previous batches of M.Sc. Computational Biology and Bioinformatics. (Annexure-VIII)

approved online
Prof. Desh Deepak Singh
 Dept. of Biotechnology
 Punjab University, Chandigarh

approved online
Prof. Brijmohan Sharma
 CSKHPKV, Palampur

[Signature]
Prof. Pardeep Kumar
 Dean SLS
 CUHP, Dharamsala

[Signature]
Dr. Shailender Kumar Verma
 Assistant Professor, CCBB
 CUHP, Dharamsala

approved online
Dr. Sunil Kumar
 HOD, Animal Sciences
 CUHP, Dharamsala

[Signature]
Dr. Mahesh Kulharia
 Director, CCBB
 CUHP, Dharamsala

Fwd: regarding the Board of studies CCBB - gourav.cuhimachal@hpcu.ac.in - Central University of Himachal Pradesh Mail

Fwd: regarding the Board of studies CCBB inbox

Mahesh Kulharia
to me

11:38 AM (19 minutes ago)

----- Forwarded message -----

From: **Prof. Desh Deepak Singh** <ddsingh@pu.ac.in>
Date: Wed, Oct 7, 2020 at 11:54 AM
Subject: Re: regarding the Board of studies CCBB
To: Mahesh Kulharia <kulharia@hpcu.ac.in>
Cc: Dr. Pardeep Kumar <pardeepsangla@gmail.com>, Dr. Sunil Kumar Thakur <sunilbcs@gmail.com>, Brij Sharma <drbrijsharma@gmail.com>, Shailender Kumar Verma <shailenderverma22@gmail.com>

Dear Dr. Mahesh Kulharia,

This is with reference to the BOS meeting and the draft minutes sent by you.

I am approving the minutes you sent and it maybe recorded accordingly.

Best wishes

--

Prof. Desh Deepak Singh
Professor, Biotechnology Department
BMS-I, South Campus
Panjab University,
Chandigarh-160 014
www: <http://biotechnology.nuchd.ac.in/>
Email: ddsingh@pu.ac.in
Ph: +91 172 2534091
+919228379835;

On 2020-10-06 13:38, Mahesh Kulharia wrote:

Dear Sirs,
Please find the draft minutes of the 6th meeting of Board of studies along with the annexures attached herewith for your kind perusal and approval.
We would really appreciate if you could find time to give your valuable suggestions/corrections/approval in next two days (i.e. 8 oct 2020).
Thanking you in anticipation
yours truly

Mahesh Kulharia
to me

11:38 AM (19 minutes ago)

----- Forwarded message -----

From: **Brij Sharma** <drbrijsharma@gmail.com>
Date: Wed, Oct 7, 2020 at 11:54 AM
Subject: Re: regarding the Board of studies CCBB
To: Mahesh Kulharia <kulharia@hpcu.ac.in>
Cc: Dr. Pardeep Kumar <pardeepsangla@gmail.com>, Dr. Sunil Kumar Thakur <sunilbcs@gmail.com>, <ddsingh@pu.ac.in>, Shailender Kumar Verma <shailenderverma22@gmail.com>

Approved.
Dr. B. M. Sharma
Sr. Professor & Programme Director (Retd.),
Ganesh Vihar (Khilru), P.O. Bindrabani,
Near SSB Chowk, Palampur- 176 061
Tel: +91 94184 71501
E-mail- drbrijsharma@gmail.com
FAX 01894 230326

://mail.google.com/mail/u/1/#inbox/FMfgxwJZJdDNvkCBNtdhmLMwrvnsHXs

1/2



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Website: www.cuhimachal.ac.in

File No: LS/1-5/ CUHP/12/ 75

Dated: 29.12.2020

MINUTES

The 7th Board of Studies (BoS) meeting of Centre for Computational Biology and Bioinformatics was held on 29th December, 2020 at 11:00 AM at Central University of Himachal Pradesh, Temporary Academic Block, Shahpur. The following were present:

1.	Dr. Mahesh Kulharia, Director, Centre for Computational Biology and Bioinformatics, School of Life Sciences	CONVERNER & CHAIRMAN	Offline Mode
2.	Prof. Brij Mohan, Ret. Professor, Chaudhary charan kumar Himachal Pradesh Agriculture University	SUBJECT EXPERT	Online Mode
3.	Prof. Desh Deepak Singh, Professor, Department of Biotechnology, Punjab University,	SUBJECT EXPERT	Online Mode
4.	Prof. Pardeep Kumar, Dean, Professor, Department of Plant Sciences, School of Life Sciences	MEMBER (VC NOMINEE)	Offline Mode
5.	Dr. Sunil Kumar, Associate Professor, Department of Animal Sciences, School of Life Sciences	MEMBER (VC NOMINEE)	Offline Mode
6.	Dr. Shailender Kumar Verma, Assistant Professor, Centre for Computational Biology and Bioinformatics, School of Life Sciences	MEMBER	Offline Mode
7.	Dr. Vikram Singh, Assistant Professor, Centre for Computational Biology and Bioinformatics, School of Life Sciences	Special Invite	Offline Mode

The Director, Centre for Computational Biology and Bioinformatics (Convener & Chairman), School of Life Sciences welcomed all the members and thanked them for being available for attending this meeting.

Signature
29/12/2020

Agenda Items:

ITEM NO: CBB-BOS-7/20-1: Approved the Minutes of the 6th Meeting of the Board of Studies held on 18th September, 2020. (Annexure-I)

ITEM NO: CBB-BOS-7/20-2: Recommended the Change from nomenclature of the Centre for Computational Biology and Bioinformatics to Department of Computational Biology and Bioinformatics. (Annexure-II)

ITEM NO: CBB-BOS-7/20-3: Approved the Re-scrutinizing of the Curriculum and addition of new courses for the M.Sc. Binformatics in the CBCS format. (Annexure-III)

ITEM NO: CBB-BOS-7/20-4: Approved the detailed syllabus for the M.Sc. Binformatics in the CBCS format (for 2020 Batch onwards). (Annexure-IV)

ITEM NO: CBB-BOS-7/20-5: Approved the appointment of Dr. Mahesh Kulharia, Associate Professor, and Centre for Computational Biology and Bioinformatics to become Ph.D. Co-Supervisor/Guide for Ms. Himisha Dixit (Reg.No.CUHP17RDCBB02) doctoral work. (Annexure-V)

ITEM NO: CBB-BOS-7/20-6: Approved the little, objectives and synopses of the Ph.D thesis of Ms. Himisha Dixit (Reg.No. CUHP17RDCBB02). (Annexure-VI)

ITEM NO: CBB-BOS-7/20-7: Approved the little, objectives and synopses of the Ph.D thesis of Mr. Ashish Panghalia (Reg.No.CUHP17RDCBB01). (Annexure-VII)

The meeting ended with votes of thanks by the chair:

Dr. Vikram Singh
Assistant Professor,
Special Invite

Sharma
29/12/2020
Dr. Shailender Kumar Verma
Assistant Professor, CCBB
CUHP, Dharamshala

Sunil Kumar
29/12/2020
Dr. Sunil Kumar
HoD, Animal Sciences,
(VC Nominee)

Approved Online
Prof. Desh Deepak Singh
(Subject Expert)

Approved Online
Prof. Brij Mohan Sharma
(Subject Expert)

Pardeep Kumar
29/12/2020
Prof. Pardeep Kumar
HoD, Plant Sciences,
(VC Nominee)

Kulharia
29/12/2020
Dr. Mahesh Kulharia
Director, CCBB, CUHP,
Convener & Chairman

पाठ्यक्रम समिति बैठक के कार्यवृत्त

कार्यसूची मद संख्या	ब्यौरा	अनुलग्नक	निर्णय
मद CBB-BOS-9/21-1	23.03.2021 को आयोजित हुई संगणकीय जीव विज्ञान एवं जैव सूचना केंद्र की आठवीं पाठ्य समिति (8th BOS) के कार्यवृत्त अनुमोदन हेतु प्रस्तुत है।	अनुलग्नक - I	स्वीकृत
मद CBB-BOS-9/21-2	राष्ट्रीय शिक्षा नीति (एनईपी-2020) के अनुसार M.Sc. Bioinformatics के लिए नए पाठ्यक्रमों में संशोधन के हेतु प्रस्ताव प्रस्तुत है।	अनुलग्नक - II	स्वीकृत*
मद CBB-BOS-9/21-3	पी-एच.डी. (CBB) कार्यक्रम के नामांकन में परिवर्तन का प्रस्ताव प्रस्तुत है।	अनुलग्नक - III	स्वीकृत
मद CBB-BOS-9/21-4	पी-एच.डी. (Bioinformatics) कार्यक्रम के पाठ्यक्रम कार्य के लिए नए पाठ्यक्रम आरम्भ करने की स्वीकृति हेतु प्रस्ताव प्रस्तुत है। 1. IKS - 02 क्रेडिट 2. Pedagogy of Teaching Learning Process - 02 क्रेडिट	अनुलग्नक - IV	स्वीकृत
मद CBB-BOS-9/21-5	विभिन्न एंटी-एग्जिट सिस्टम को अपनाने के हेतु प्रस्ताव प्रस्तुत है।	अनुलग्नक - V	स्वीकृत#
मद CBB-BOS-9/21-6	संगणकीय जीव विज्ञान एवं जैव सूचना केंद्र में प्रायोगिक (Practical) एवं मौखिक (Viva-Voce) परीक्षा हेतु बाह्य परीक्षकों की सूची के अनुमोदन हेतु प्रस्ताव प्रस्तुत है।	अनुलग्नक - VI	स्वीकृत
मद CBB-BOS-9/21-7	संगणकीय जीव विज्ञान एवं जैव सूचना केंद्र में पी-एच.डी. शोधार्थियों के लिए पर्यवेक्षक आबंटन का प्रस्ताव प्रस्तुत है।	अनुलग्नक - VII	स्वीकृत
मद CBB-BOS-9/21-8	कोई अन्य मामले जो कि अध्यक्ष की अनुमति से विचार-विमर्श किए जाएंगे।		

*ध्यावसायिक पाठ्यक्रमों की सूची को भविष्य में संकाय विशेषज्ञता और उपलब्धता के अनुसार संशोधित किया जाएगा।

#यह सीयूएचपी एनईपी कार्यान्वयन समिति की सिफारिश है। प्रवेश/निकास के तौर-तरीके यूजीसी/सीयूएचपी दिशानिर्देशों के अनुसार विश्वविद्यालय के अधिकारियों द्वारा तय किए जाएंगे।

डॉ. बृजमोहन शर्मा
सेवानिवृत्त प्रोफेसर
चौधरी सरवन कुमार कृषि
विश्वविद्यालय हिमाचल प्रदेश
पालमपुर

डॉ. सुनील कुमार
जन्तु विज्ञान विभाग
हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

प्रोफेसर देशदीपक सिंह
जैव प्रौद्योगिकी विभाग
पंजाब विश्वविद्यालय

प्रोफेसर दीपक कुमार
पाठ्य विज्ञान विभाग
डीन स्कूल जीव विज्ञान

डॉ. शैलेन्द्र कुमार वर्मा
सहायक प्रोफेसर
संगणकीय जीव विज्ञान एवं जैव सूचना केंद्र

डॉ. महेश कुल्हाप्रेया
अध्यक्ष, पाठ्यक्रम समिति
संगणकीय जीव विज्ञान एवं जैव सूचना केंद्र

Central University of Himachal Pradesh

Centre for Computational Biology and Bioinformatics

School of Life Sciences

Minutes



9th BOARD OF STUDIES MEETING
HELD ON 27th SEPTEMBER, 2021 SHAHPUR CAMPUS

Venue: Seminar Hall,
Central University of Himachal Pradesh
Shahpur Campus

पाठ्यक्रम समिति बैठक के कार्यवृत्त

कार्यसूची मद संख्या	ब्यौरा	अनुलग्नक	निर्णय
मद CBB-BOS-9/21-1	23.03.2021 को आयोजित हुई संगणकीय जीव विज्ञान एवं जैव सूचना केंद्र की आठवीं पाठ्य समिति (8th BOS) के कार्यवृत्त अनुमोदन हेतु प्रस्तुत है।	अनुलग्नक - I	स्वीकृत
मद CBB-BOS-9/21-2	राष्ट्रीय शिक्षा नीति (एनईपी-2020) के अनुसार M.Sc. Bioinformatics के लिए नए पाठ्यक्रमों में संशोधन के हेतु प्रस्ताव प्रस्तुत है।	अनुलग्नक - II	स्वीकृत*
मद CBB-BOS-9/21-3	पी-एच.डी. (CBB) कार्यक्रम के नामांकन में परिवर्तन का प्रस्ताव प्रस्तुत है।	अनुलग्नक - III	स्वीकृत
मद CBB-BOS-9/21-4	पी-एच.डी. (Bioinformatics) कार्यक्रम के पाठ्यक्रम कार्य के लिए नए पाठ्यक्रम आरम्भ करने की स्वीकृति हेतु प्रस्ताव प्रस्तुत है। 1. IKS - 02 क्रेडिट 2. Pedagogy of Teaching Learning Process - 02 क्रेडिट	अनुलग्नक - IV	स्वीकृत
मद CBB-BOS-9/21-5	विभिन्न एंटी-एजेंट सिस्टम को अपनाने के हेतु प्रस्ताव प्रस्तुत है।	अनुलग्नक - V	स्वीकृत#
मद CBB-BOS-9/21-6	संगणकीय जीव विज्ञान एवं जैव सूचना केंद्र में प्रायोगिक (Practical) एवं मौखिक (Viva-Voce) परीक्षा हेतु बाह्य परीक्षकों की सूची के अनुमोदन हेतु प्रस्ताव प्रस्तुत है।	अनुलग्नक - VI	स्वीकृत
मद CBB-BOS-9/21-7	संगणकीय जीव विज्ञान एवं जैव सूचना केंद्र में पी-एच.डी. शोधार्थियों के लिए पर्यवेक्षक आबंटन का प्रस्ताव प्रस्तुत है।	अनुलग्नक - VII	स्वीकृत
मद CBB-BOS-9/21-8	कोई अन्य मामले जो कि अध्यक्ष की अनुमति से विचार- विमर्श किए जाएंगे।		

*व्यावसायिक पाठ्यक्रमों की सूची को भविष्य में संकाय विशेषज्ञता और उपलब्धता के अनुसार संशोधित किया जाएगा।

#यह सीयूएचपी एनईपी कार्यान्वयन समिति की सिफारिश है। प्रवेश/निकास के तौर-तरीके यूजीसी/सीयूएचपी दिशानिर्देशों के अनुसार विश्वविद्यालय के अधिकारियों द्वारा तय किए जाएंगे।

डॉ. ब्रजमोहन शर्मा
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पालमपुर

डॉ. सुनील कुमार
जन्तु विज्ञान विभाग
हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

प्रोफेसर देशदीपक सिंह
जैव प्रौद्योगिकी विभाग
पंजाब विश्वविद्यालय

प्रोफेसर दीपक कुमार
पाठ्य विज्ञान विभाग
डीन स्कूल जीव विज्ञान

डॉ. शैलेंद्र कुमार वर्मा
सहायक प्रोफेसर
संगणकीय जीव विज्ञान एवं जैव सूचना केंद्र

डॉ. महेश कुल्हात्रिया
अध्यक्ष, पाठ्यक्रम समिति
संगणकीय जीव विज्ञान एवं जैव सूचना केंद्र

- f. Data Collection / Field work / Project Work;
- g. Papers / Projects / Dissertation / Thesis / Seminar;
- h. Assignments / Quizzes / mid-term
- i. End-semester examination.

Semester System:

SEMESTER	ACADEMIC SESSION	VACATION
MONSOON (158 days)	16th July to 20th December	21st December to 5th January
SPRING (146 days)	6st January to 31st May	1st June to 15th July

7. All Programmes of Studies offered by the University shall be based on the Semester-System. Accordingly, the Academic Calendar of the University shall be divided into (a) Monsoon Semester and (b) Spring semester as given below:

Choice Based Credit System (CBCS):

8. All Programmes of Studies in the University shall be broadly based on Comprehensive Choice-Based Credit System (CBCS) on the same pattern as prescribed the UGC. Each Department / Centre of the university will prepare a list of courses of the programme of study to be offered by it comprising of Core-Compulsory, Core-Open, Elective-Specialisation, Elective-Open, Foundation-Human-Making and Foundation-Skill Development.

(a) Core-Compulsory are the courses which necessarily need to be completed by every student for obtaining a degree in the said discipline.

(b) A Core-Open course is one that a student can opt from a basket of core-open courses offered by the Department / Centre or by a related discipline(s) included in the list of sister disciplines prepared by the concerned Department / Centre for such courses.

(c) Elective-Specialization course pertains to specialization in a certain sub-discipline of study and will be opted by the student out of the basket of elective specialisation courses offered by the concerned Department / Centre only.

(d) Elective-Open course is a course which is inter-disciplinary in nature. A student may opt for Elective-Open course out of the basket of courses offered across all Departments / Centres of the University.

(e) Foundation-Human-Making courses are meant for the overall development of the student's personality.

(f) Foundation-Skill Development courses are for inculcating / enhancing specific skill in the students.

In the beginning of every academic year, every Department / Centre shall offer minimum one course as Elective-Open, and minimum one course as Foundation Course (Human-Making and Foundation-Skill- Development).

The ideal number of students for any course shall be 30 and can go up to a maximum of 60. However, depending upon the nature of the course, a teacher may allow more than 60 students to opt for the course. If the number of students is more than 45, then the Department/Centre would make arrangement for two or more sections to accommodate the student in the said course.

9. The curricula for all Programmes of Studies shall offer wide choices to students in terms of courses, content, mode and pace of learning and shall encourage students to choose their own basket of courses and decide their own pathways and pace of learning.
10. In order to enable students decide their pathways and exercise choices for basket of courses in each semester, they will be assisted by Faculty Advisor who will guide them in exercising their choices;
11. The School Boards shall specify broad framework, set standards and benchmarks by pre-specifying educational components, learning outcomes and workloads to be followed by Departments in designing and delivery of courses;

Course Catalogue:

12. The nomenclature / title, educational components, course-requirements including pre-requisites and co-requisites and credits shall be specified by the Board of Studies within the broad framework specified by the School Board.
13. All courses as specified and approved by the Boards of Studies / School Board / Academic Council, shall be listed in the Course Catalogue that shall be continuously reviewed and updated.
14. The Course Catalogue will provide a comprehensive listing and a brief outline of all courses offered across all Departments / Centres / Schools of the University.
15. Each course listed in the Course Catalogue shall indicate its level, pre-requisite(s) and co-requisite(s), expectations in terms of time commitments on the part of students registering for that course and requirements for successful completion of the course.

Course Registration:

16. After admission to a Programme of Studies and at the commencement of each subsequent Semester, a student shall be required to register for the Courses he/she intends to undergo during the Semester.
17. The registration for courses shall be made in consultation with the Faculty Advisor(s) and on the prescribed format and shall be duly signed by the Student, Faculty Advisor and Head of the Department / Director of the Centre concerned.
18. A student may be permitted to change the courses, if applicable, within 7 days from the date of course registration.
19. The minimum and maximum number of credits that students can register for in a semester shall be such as prescribed by the School Board / Academic Council.

Response to 1.2.2 DVV-4)Structure of the program: M.Sc. Bioinformatics

Semester – I		
Type	Code and Nomenclature	Credits
Major	BIN 415 Basics of Biochemistry	2
	BIN 416 Cell and Molecular Biology	2
	BIN 417 Statistical Methods	4
	BIN 418 Linux and Shell Scripting Lab	2
Minor	BIN 419 Sequence Analysis	2
	BIN 420 Biomolecular Structure Analysis	2
Vocational	BIN 421 Python Programming Lab I	2
	BIN 422 Sequence and Structure Analysis Lab	2
IKS	University wide	2
Semester – II		
Major	BIN 465 Computer Aided Drug Discovery	4
	BIN 465 Computational Genomics and Proteomics	4
	BIN 467 Algorithms in Bioinformatics	4
Minor	BIN 468 Fundamentals of Machine Learning	2
	BIN 469 Fundamentals of Molecular Dynamics simulations	2
Vocational	BIN 470 Python Programming Lab II	2
IKS	BIN 471 History of Science in India	2
Semester – III		
Major (Any for credits equivalent to 4)	BIN 515 Biological Databases and Management System	2
	BIN 516 Systems Biology and Biological Networks	4
	BIN 517 Essentials of Immunology	2
Minor	BIN 518 Research Methodology	4
Vocational	BIN 519 Computer Aided Drug Design Lab	2
	BIN 520 Systems Biology Lab	2
Review	BIN 521 Review of Literature and research proposal	8
Semester – IV		
Major (Any for credits equivalent to 4)	BIN 565 Statistical Genetics	2
	BIN 566 Molecular Evolution	4
	BIN 567 Introduction of Synthetic Biology	2
Minor	BIN 568 Academic Writings	2
	BIN 569 Paper publication/ seminar/ conference	2
Vocational	BIN 570 Molecular Dynamics Simulation Lab	2
	BIN 571 Data Analysis Lab	2
Dissertation	BIN 595 Dissertation	8
Total		80

Criteria Index Number	Criteria Details
1.2.2	Percentage of Programmes in which Choice Based Credit System (CBCS) / elective course system has been implemented (Data for the latest completed academic year).

DVV: Kindly provide 1) List of programs in which **CBCS/ECS** was implemented in the last completed academic year as certified by the Registrar. 2) Minutes of the Academic Council/BOS meetings highlighting the relevant documents to this metric 3) University letter endorsing the implementation of **CBCS**. 4) Structure of the program

Clarification / Justification and evidence

1) **List of programs in which CBCS/ECS was implemented in the last completed academic year as certified by the Registrar.**

S.No.	Programme Name	BoS / Academic Council when CBCS was adopted
1	M.Sc.	5 th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 23 rd August, 2018 6 th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 18 th Sep, 2020 7 th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 29 th Dec, 2020 9 th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 27 th Sep, 2021
2	PhD	6 th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 18 th Sep, 2020 7 th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 29 th Dec, 2020 9 th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 27 th Sep, 2021

The above facts are true to the best of departmental records and knowledge.

Prof. Mahesh Kulharia
Head of the Department
Computational Biology and Bioinformatics

निदेशक / Director
अभियन्तार्यायक नीर विज्ञान एवं कम्प्युटर विज्ञान केंद्र
Centre for Computational Biology and Bioinformatics
हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय, धरमशाला /
Central University of Himachal Pradesh,
Dharamshala-176215


पत्राचार का पता: हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय, शाहपुर, जिमा कांगड़ा (हि-प्र) - 176206

Correspondence Address: Central University of Himachal Pradesh, Shahpur, Distt: Kangra (H.P.) - 176206

List of programs in which CBCS/ECS was implemented in the last completed academic year

S.No.	Programme Name	BoS / Academic Council when CBCS was adopted
1	M.Sc.	5 th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 23 rd August, 2018 6 th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 18 th Sep, 2020 7 th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 29 th Dec, 2020 9 th Board of Studies of the Centre for Computational Biology and Bioinformatics, School of Life Sciences was held on 27 th Sep, 2021
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निदेशक / Director
अभिकल्पनात्मक जीव विज्ञान एवं जैवसूचना विज्ञान केंद्र
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हिमाचल प्रदेश केंद्रीय विश्वविद्यालय, धर्मशाला /
Central University of Himachal Pradesh,
Dharamshala-176215

डा. महेश कुमारी / Prof. Mahesh Kulkarni
 Email ID: kulkarni@cuhim.ac.in Mobile: 9886428834

संदर्भ क्रमांक Ref No: C.U.H.P./CSD/1400/04,
 दिनांक Date: 27/3/23

Response to 1.2.2 DVV-4) Structure of the program: M.Sc. Bioinformatics

Semester - I		
Type	Code and Nomenclature	Credits
Major	BIN 415 Basics of Biochemistry	2
	BIN 416 Cell and Molecular Biology	2
	BIN 417 Statistical Methods	4
	BIN 418 Linux and Shell Scripting Lab	2
Minor	BIN 419 Sequence Analysis	2
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Vocational	BIN 421 Python Programming Lab I	2
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IKS	University wide	2
Semester - II		
Major	BIN 465 Computer Aided Drug Discovery	4
	BIN 465 Computational Genomics and Proteomics	4
	BIN 467 Algorithms in Bioinformatics	4
Minor	BIN 468 Fundamentals of Machine Learning	2
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Vocational	BIN 470 Python Programming Lab II	2
IKS	BIN 471 History of Science in India	2
Semester - III		
Major (Any for credits equivalent to 4)	BIN 515 Biological Databases and Management System	2
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Major (Any for credits equivalent to 4)	BIN 565 Statistical Genetics	2
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	BIN 569 Paper publication/ seminar/ conference	2
Vocational	BIN 570 Molecular Dynamics Simulation Lab	2
	BIN 571 Data Analysis Lab	2
Dissertation	BIN 595 Dissertation	8
Total		80

निदेशक / Director

केन्द्रीय विश्वविद्यालय हिमाचल प्रदेश का
 Centre for Computational Biology and Bioinformatics

कम्प्यूटर विभाग, हिमाचल प्रदेश
 Department of Computer Science, Himachal Pradesh

Central University of Himachal Pradesh
 Shimla-176225

Shahpur, Distt. Kangra (H.P.) - 176206

पत्राचार का पता: हिमाचल प्रदेश केंद्रीय विश्वविद्यालय, हिमाचल प्रदेश, हिमाचल प्रदेश (हि.प्र.) - 176206

Correspondence Address: Central University of Himachal Pradesh, Shimla-176225, Shahpur, Distt. Kangra (H.P.) - 176206

Programme Outcomes:

Student graduating after successful completion of this course shall be able to

PO¹ Critically analyse current issues and trends influencing the field of Bioinformatics.

PO² Competent to carry out understanding complex information from the concurrent scientific literature, identify the knowledge lacunae, shortlist attainable objectives, design comprehensive methodology and carry out the unsupervised research.

PO³ Shall have scientific temperament.

PO⁴ Establish professional relationships and development of professional competencies

Response to 1.2.2 DVV-4) Structure of the program: PhD Bioinformatics

Course Code	C/E*	Course Name	Credits	Credits for students
CPE-RPE	C	Research and Publication Ethics	2	2
BIN - 601	C	Research Methodology	4	4
BIN - 602	C	Indian Knowledge System	2	2
BIN - 603	C	Pedagogy of teaching learning Process	2	2
BIN - 604	E	Sequence and Structural Bioinformatics	4	12
BIN - 605	E	Statistical Mechanics	4	
BIN - 606	E	Scientific Programming Lab	4	
BIN - 607	E	Molecular Dynamics Lab	4	
BIN - 608	E	Plant Bioinformatics	4	
BIN - 609	E	Machine Learning and Applications	4	
BIN - 610	E	Scientific Writing and Presentation Skills	4	
Total				

* Students can select any **three elective** papers from above scheme.

C- Compulsory, E-Elective

Programme Outcomes: On successful completion of the Ph.D. programme, the students will able

to:

1. Design independent research problems in the field of Bioinformatics
2. Explore real-life problems with the help of computational tools
3. Pursue research in this multidisciplinary area of science

निदेशक / Director

कम्प्यूटर विज्ञान और जैव-वैज्ञानिक विज्ञान केंद्र
Centre for Computational Biology and Bioinformatics

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय, धरमशला /
Central University of Himachal Pradesh, Dharamshala

Address: Dharamshala-176215

पत्राचार का पता: हिमाचल प्रदेश केंद्रीय विश्वविद्यालय, धरमशला (हि.प्र.) - 176206

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हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

Central University of Himachal Pradesh

(Established under Central Universities Act 2009)

Website: www.cuhimachal.ac.in

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आज़ादी का
अमृत महोत्सव

प्रो. महेश कुलहिया / Prof. Mahesh Kulharia

Email ID: kulharia@cuhimachal.ac.in Mobile: 9938428856

सन्दर्भ संख्या / Ref. No : CUHP/CBB/HOD/0037


दिनांक / Date :

27/3/23

The following is the year-wise list of value added courses that were offered outside the curriculum of program:

S.No.	Year	Course Code	Course Name	Credits
1	2016-17	CBB432	Public Health and Infections	2
2	2017-18	CBB434	Skills in Agriculture Technology	2
3	2018-19	CBB436	History Of science & Technology In India	2
4	2019-20	CBB436	History Of science & Technology In India	2
5	2020-21	CBB409	Biosafety Issues	2
6	2020-21	CBB459	History Of science & Technology In India	2

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Computational Biology and Bioinformatics

निदेशक / Director

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