

University of Delhi

Under Graduate Curriculum Revision (UGCR 2019) under Learning Outcome-Based Curriculum Framework

Brief Report

In the academic session 2019-20, the University of Delhi also undertook the process of updating all its Under-Graduate and Post-Graduates programmes for incorporating Learning Outcome-Based Curriculum Framework (LOCF) to its existing Choice Based Credit System (CBCS) curriculum. The Programmes being based on the CBCS format since 2015 are now revised and up-to-date as per the guidelines proposed by National Assessment and Accreditation Council (NAAC) and UGC.

A seven-member committee, with Prof. C.S. Dubey as the Chairperson, Prof. Kavita Sharma as Co-Chairperson, Prof. Pankaj Arora as the Convener, Dr. Haneet Gandhi as the Co-convener, and Dr. Satish Kumar, Dr. Pankaj Kumar, and Dr. Nityanand Agasti as members initiated the task of revising a close to 3500 Courses in the month of March 2019 to successfully complete it before the commencement of the academic session of July 2019.

Revision of approximately 3500 courses under 67 programmes of the University was indeed a colossal activity. The entire process involved 47 Departments/Colleges, 68 Programs, 3500 Courses, 3392 Resource Persons: 53 HoDs, 410 Coordinators, 2121 Teachers from Colleges/Departments, 133 students and 345 Ex- Students. Such a mammoth task of revising syllabi of University of Delhi in such a small timescale and with larger participation could be possible due to dashboard management and consistent efforts of the dedicated members of UGCRC-2019.

In all four drafts of each Course were prepared by the designated committees before the final submission to the council on June 20, 2019. For smooth revision of all courses in a scheduled/time-bound manner several steps were taken by the UGCR Committee such as preparation and dissemination of video tutorial explaining working of the Dashboard, personal technical assistance to help Heads of different Departments, Course Coordinators and working group members. Need-based telephonic assistance by committee members, regular emails explaining the steps at each level, regular reminders through SMS and emails, personal follow-ups with HoDs/Deans including personal visits by committee members and Department specific report cards stating individual progress/deficiency, involvement of electronic and print media for reaching to larger section of society and facilitating stakeholders feedback, preparation of separate dashboard for getting timely online feedback from different stakeholders such as students, alumni, academicians, national and international experts.

A wide spectrum of people was invited to share their opinion on the proposed curriculum. This included a pool of experts based on the recommendations of the teaching departments, 445 alumni who are now placed in India and abroad, a close to 330 eminent academic experts from international universities, Numerous National Experts including Two Ex-Vice Chancellors of DU.

The process has set a benchmark for being democratic, inclusive, transparent and time bound process which was technology oriented and helpful in saving lot of human energy, time and money.

Delhi University's initiation to revise all its Undergraduate Courses under LOCF has already set a milestone as the University becomes the first university to implement LOCF based course curriculum across the nation. Further, it is for the first time that NCWEB, SOL and regular colleges of university will be following the same curriculum, which means irrespective of the institute of study, every student of Delhi University will receive same academic inputs. It is estimated that the revised courses will benefit a close to seven lakh Under-graduate students of the University. This will also encourage mobility from one institution to another institution thus facilitating uniform course curriculum across the country.



University of Delhi



EXECUTIVE COUNCIL MEETING, JULY 20, 2019

**TO CONSIDER ALL REVISED PG & UG COURSES RECOMMENDED BY
THE ACADEMIC COUNCIL MEETING, JULY 15-16, 2019**

**LEARNING OUTCOMES-BASED CURRICULUM FRAMEWORK (LOCF)
FOR UNDER GRADUATE PROGRAMS**

UNDER GRADUATE CURRICULUM REVISION COMMITTEE-2019

Aspects that need attention



- **Defining and listing Learning Outcomes for Under Graduate Education: Fulfilment of NAAC and other accrediting bodies requirements**
- **Revision of Curriculum & Updating Reading List**
- **Bridging of UG Curriculum with Sr. Sec. School curriculum and PG courses** (Refer NCERT books to know the entry level)
- **Gaps in Programme**
 - Limited window for opting Generic Elective Papers
 - Compulsory and Additional Reading Lists of each course must with specific page/chapter be made keeping in mind the level of students and availability of time

Mandate



Revision of the UG curriculum will serve the following mandate

- To serve community of 7 lac students in DU: Regular, SOL, NCWEB wef 2019-20
- To bring the curriculum as a bench mark with the best international academic practices.
- To enhance the curriculum to meet global standards
- To empower the youth for a sustainable living.
- Relevant for students for pursuing further studies in India and abroad, prepare for competitive exams, meet job expectations

Cont.....



- **Curriculum to match International Standards**
- **Further Strengthening**
 - Inclusion of Research
 - Integration of Life Skills
 - Widening the pool of Skill Enhancement Courses
- **Identifying Readings in other languages**

Process begins



- The Activity was conceptualized in January 2019
- Formal Meeting with Deans/HoDs : March 11, 2019
(Provided with detail guidelines, LOCF manual)
- Launch of Dashboard: March 12, 2019
- Letter stating Expectations from HoDs and Deans sent:
March 12, 2019

Process



- Departments started login on Dashboard:
March 20, 2019
- Head of the Department through COC.
- Course Coordinator
- 3 - 8 teachers teaching the course
- Two students

Facilitation for revision of courses



- Video tutorial explaining working of the Dashboard
- Personal technical assistance to help people
- Need-based telephonic assistance by committee members
- Regular emails explaining the steps at each level
- Regular reminders through SMS and emails
- Personal follow-ups with HoDs including personal visits by committee members
- Department specific report cards were sent, stating individual Course/Programme's progress/non-progress

Some facts.....



- Number of Departments: **47 Departments/Colleges**
- Number of Programmes: **68**
- Number of Courses: **3500 aprox**
- Number of resource person involved: **3392 (53 HoDs, 410 Coordinators, 2121 Teachers from Colleges/Departments, 133 students and 345 Ex- Students)**



Inbox (394) - nnagasti@gmail.com

Zimbra: Inbox

LOCF Dashboard

Guidelines for Coordinator and V

← → ↻ ⓘ Not secure | ugcr2019.du.ac.in/index.php/dashboard

☰

LOCF

Admin Panel

Dashboard

Administration Menu

Feedback/ Suggestions List **NEW!**

Programme wise Report **NEW!**

First Draft Report

View Draft (Course)

View Draft (Programme)

Change Password

Logout

Super Admin
superadmin

Revision of Under Graduate Courses - LOCF

UG Courses - Learning Outcomes-based Curriculum Framework (LOCF)

Last Date for constituting course revision committee 1-April-2019

Last Date for Submission of the First Draft 1-April-2019

Help Video

Email: ugcr2019@du.ac.in
SMS Alerts: ELEARN

Presentation for S....pp...

Status Report Progr....xls

Request for Feed....docx

Request for Feed....docx

Request for Feed....docx

Show all

Windows

Ask me anything

ENG IN

5:57 AM 7/10/2019

First Draft



- Identifying the Course specific Coordinators and Working Group members (Many departments called General Body Meetings of teachers)
- Constitution of course-wise committees by HODs.
- Each member of the committee was provided with a user id and password to login the dashboard.
- Communicated through Email and mobile sms to committee members
- Members added their inputs on dashboard.

Dear Prof. Suman Kundu,

We thank you for uploading papers for **B.Sc. (Hons) Biochemistry** on the website of your Department. While reviewing the revised course and its structure, the committee has the following observations to share:

| Components | Status (Yes/No) | Remarks if any |
|--|-----------------|--|
| LOCF | | |
| Structure of the Programme (semester wise distribution of courses and credits) | ✓ | LOCF (24/24) |
| Introduction to the Programme | ✓ | |
| Learning Outcome-based approach to the Programme (please see LOCF 24 attributes) | ✓ | |
| Graduate Attributes in Subject | ✓ | |
| Qualification Description | ✓ | |
| Programme Learning Outcomes | ✓ | |
| Teaching-Learning Process | ✓ | |
| Assessment Methods | ✓ | |
| COURSE ASSESSMENT | | |
| Course Objective | ✓ | |
| Course Learning Outcomes (preferably unit wise) | ✓ | |
| Course content added (Unit-wise) | ✓ | |
| References (Essential and Suggestive) | ✓ | |
| Link units with chapter/pages of the reference. | | |
| Teaching-Learning Plan (Weekly/unit wise) Not more than 12 weeks | ✓ | It will be good if these are elaborated week-wise |
| Assessment (Course-wise) (Unit wise/Weekly) | ✓ | |
| Keywords | ✓ | |
| Email id for collecting feedback | ✓ | |

Cont.....



- Each member and coordinator could see the contents of each other.
- Course coordinator compiled the contents and submitted the revised syllabus.
- Automatically syllabus of the whole Programme got compiled both in MSWord (editable) and PDF (non editable) versions.
- Both Course-wise and Programme-wise syllabus HOD could access on the dashboard of respective department

Second Draft



- HOD placed the FIRST DRAFT before the Committee of Courses for approval
- First Draft approved by respective Committee of Courses.
- Approved DRAFT termed as SECOND DRAFT.
- Respective departments uploaded the SECOND DRAFT on their website and University website for feedback from stakeholders.

WIDE circulation for suggestions/feedback on revised syllabi



- SECOND DRAFT was displayed on website of respective departments and DU official website for Stakeholders' feedback
- HODs sent the syllabi to at least two National and International experts
- Sent to 281 Alumni.
- Sent to 5 students in each program.
- Second draft sent to 115 Professionals, 326 Academic Experts (National & International).
- Sent to all AC members/ EC Members and College Principals.

Interactive meetings with experts from NCR



- Numerous National Experts incl. Two Ex-Vice Chancellors were invited by the committee for interactive sessions and were appraised with the objectives/ complete process of revision of UG Curriculum.
- They were appreciative of the democratic, inclusive, transparent and time bound process which is technology oriented and helpful in saving lot of human energy, time and money.

Afterall, you all are the apex of a large pyramid of academic units and decision-making bodies who are actually doing the task of curriculum revision. It is mind boggling. The monitoring system that you have put together in the form of dashboard is really impressive.

From Academic Council....



- We further reiterate that, No change in Title and sequencing of titles of the core courses is allowed under this revision exercise for Undergraduate Courses.
- All courses will have Chapter wise/ Unit wise references or a weekly program defining chapter number from text books or other references. References have page numbers too. Kindly treat this **mandatory** as this will also help and ease the fresher students to use syllabus as **Reading Reckoner**.
- Number of essential readings for each course should be kept to the maximum of 4 to 5. Please make sure that, there is no controversial content/readings.

Thank You all !



- We congratulate all faculty members of Departments and Colleges of Delhi University for timely preparation of new LOCF based Under Graduate and Post Graduate Curriculum.
- We acknowledge suggestions and feedbacks of more than three thousand faculty members of Departments and Colleges, Hundreds of International and National experts, Industry, Alumni and our own students and approx 1000 feedbacks from stakeholders from academicians, media, publishers and general public.



political science <polscience.du@gmail.com>

LOCF:DU, feedback and suggestions for LOCF

4 messages

LOCF:DU Team <ugcr2019@du.ac.in>

Reply-To: "LOCF:DU Team" <ugcr2019@du.ac.in>

To: Member <polscience.du@gmail.com>

Thu, May 23, 2019 at 4:21 PM

Dear Member,

The University of Delhi is revising the Under-Graduate Curriculum in the light of UGC's Learning Outcome-Based Curriculum Framework (UGC-LOCF).

Feedback and Suggestions

Name - Shatakshi Kapoor

Affiliation - Delhi University

Email - shatakshikapoorfc@gmail.com

Mobile - 6397802600

Department of Political Science

B.A. (Hons.) Political Science

1. Does the program help in implementing a sustainable assessment process to promote students to acquire knowledge, skills, desirable attitudes leading to Higher-order decision making and problem-solving abilities.
Feedback/ Suggestion - **Yes**

2. Does the program assure the pursuance of a Quality and Values-Based system of Education.
Feedback/ Suggestion - **Yes**

3. Does the program initiates inquiry-based, demonstration-based learning environment.
Feedback/ Suggestion - **Yes**

4. Does the program provide feedback and insight for continuous improvement in the teaching-learning process.
Feedback/ Suggestion - **Yes**

5. Does the program ensure advancement towards national and global concerns/ goals.
Feedback/ Suggestion - **Yes**

6. Does the program evaluate and report Programme and course learning outcomes.
Feedback/ Suggestion - **Yes**

7. Does the course ensure attainment of minimal level of expected graduate attributes such as knowledge, ethical and social values, skills and the upskilling in 4th Industrial revolution needs, global outlook, perception for local needs, corporate social responsibilities and perception for public good and societal needs.
Feedback/ Suggestion - **Yes**

8. Does the course have topics and reference books have contents of relevance to all above.
Feedback/ Suggestion - **Yes**

9. Does the course provide opportunities for display of different attributes of learners.
Feedback/ Suggestion - **Yes**

10. Does the course promote innovation, creativity and novelty among learners.
Feedback/ Suggestion - **Yes**

11. Does the course cater to changing learner requirements and characteristics.
Feedback/ Suggestion - **Yes**

12. Does the course promote valid, reliable and transparent assessment procedures.
Feedback/ Suggestion - **Yes**

Feedback/ Suggestion - **NA**

12. Does the course promote valid, reliable and transparent assessment procedures.
Feedback/ Suggestion - **NA**

13. Does the course establish and maintain national and global standards in Higher Education.
Feedback/ Suggestion - **NA**

14. Does the course foster the quality of Teaching-Learning process
Feedback/ Suggestion - **NA**

[Quoted text hidden]

political science <polscience.du@gmail.com>
To: Avantika <avantika161@gmail.com>

Thu, Jun 6, 2019 at 4:37 PM

[Quoted text hidden]

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With Regards,
Department of Political Science
2nd Floor, Faculty of Social Sciences
University of Delhi
Delhi 110 007
Ph. 011-27666670
website:- <http://polscience.du.ac.in>
email:- polscience.du@gmail.com
office@polscience.du.ac.in

political science <polscience.du@gmail.com>
To: Avantika <avantika161@gmail.com>

Thu, Jun 6, 2019 at 4:37 PM

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

From: **LOCF:DU Team** <ugcr2019@du.ac.in>
Date: Thu, May 23, 2019 at 8:10 PM
Subject: LOCF:DU, feedback and suggestions for LOCF
To: Member <polscience.du@gmail.com>

[Quoted text hidden]

[Quoted text hidden]



political science <polscience.du@gmail.com>

LOCF:DU, feedback and suggestions for LOCF

3 messages

LOCF:DU Team <ugcr2019@du.ac.in>

Thu, May 23, 2019 at 10:15 AM

Reply-To: "LOCF:DU Team" <ugcr2019@du.ac.in>

To: Member <polscience.du@gmail.com>

Dear Member,

The University of Delhi is revising the Under-Graduate Curriculum in the light of UGC's Learning Outcome-Based Curriculum Framework (UGC-LOCF).

Feedback and Suggestions

Name - Swetha

Affiliation -

Email - swethasivakumar8750@gmail.com

Mobile - 7290822097

Department of Political Science

B.A. (Hons.) Political Science

1. Does the program help in implementing a sustainable assessment process to promote students to acquire knowledge, skills, desirable attitudes leading to Higher-order decision making and problem-solving abilities.
Feedback/ Suggestion - **Yes**

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Feedback/ Suggestion - **Yes**

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Feedback/ Suggestion - **Yes**

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Feedback/ Suggestion - **Yes**

11. Does the course cater to changing learner requirements and characteristics.
Feedback/ Suggestion - **Yes**

12. Does the course promote valid, reliable and transparent assessment procedures.
Feedback/ Suggestion - **Yes**



political science <polscience.du@gmail.com>

LOCF:DU, feedback and suggestions for LOCF

2 messages

LOCF:DU Team <ugcr2019@du.ac.in>

Tue, May 21, 2019 at 1:47 PM

Reply-To: "LOCF:DU Team" <ugcr2019@du.ac.in>

To: Member <polscience.du@gmail.com>

Dear Member,

The University of Delhi is revising the Under-Graduate Curriculum in the light of UGC's Learning Outcome-Based Curriculum Framework (UGC-LOCF).

Feedback and Suggestions

Name - SANSKRITI YADAV

Affiliation - Student

Email - sanskritiyadav0599@gmail.com

Mobile - 7905797963

Department of Political Science

B.A. (Hons.) Political Science

1. Does the program help in implementing a sustainable assessment process to promote students to acquire knowledge, skills, desirable attitudes leading to Higher-order decision making and problem-solving abilities.
Feedback/ Suggestion - **Yes**

2. Does the program assure the pursuance of a Quality and Values-Based system of Education.
Feedback/ Suggestion - **Yes**

3. Does the program initiates inquiry-based, demonstration-based learning environment.
Feedback/ Suggestion - **No**

4. Does the program provide feedback and insight for continuous improvement in the teaching-learning process.
Feedback/ Suggestion - **No**

5. Does the program ensure advancement towards national and global concerns/ goals.
Feedback/ Suggestion - **Yes**

6. Does the program evaluate and report Programme and course learning outcomes.
Feedback/ Suggestion - **No**

7. Does the course ensure attainment of minimal level of expected graduate attributes such as knowledge, ethical and social values, skills and the upskilling in 4th Industrial revolution needs, global outlook, perception for local needs, corporate social responsibilities and perception for public good and societal needs.
Feedback/ Suggestion - **Yes**

8. Does the course have topics and reference books have contents of relevance to all above.
Feedback/ Suggestion - **No**

9. Does the course provide opportunities for display of different attributes of learners.
Feedback/ Suggestion - **No**

10. Does the course promote innovation, creativity and novelty among learners.
Feedback/ Suggestion - **No**

11. Does the course cater to changing learner requirements and characteristics.
Feedback/ Suggestion - **No**

12. Does the course promote valid, reliable and transparent assessment procedures.
Feedback/ Suggestion - **No**



political science <polscience.du@gmail.com>

LOCF:DU, feedback and suggestions for LOCF

2 messages

LOCF:DU Team <ugcr2019@du.ac.in>

Sat, May 18, 2019 at 10:19 PM

Reply-To: "LOCF:DU Team" <ugcr2019@du.ac.in>

To: Member <polscience.du@gmail.com>

Dear Member,

The University of Delhi is revising the Under-Graduate Curriculum in the light of UGC's Learning Outcome-Based Curriculum Framework (UGC-LOCF).

Feedback and Suggestions

Name - Naveen

Affiliation - student

Email - nk3342150@gmail.com

Mobile - 9958677589

Department of Political Science

B.A. (Hons.) Political Science

1. Does the program help in implementing a sustainable assessment process to promote students to acquire knowledge, skills, desirable attitudes leading to Higher-order decision making and problem-solving abilities.

Feedback/ Suggestion - **NA**

2. Does the program assure the pursuance of a Quality and Values-Based system of Education.

Feedback/ Suggestion - **NA**

3. Does the program initiates inquiry-based, demonstration-based learning environment.

Feedback/ Suggestion - **NA**

4. Does the program provide feedback and insight for continuous improvement in the teaching-learning process.

Feedback/ Suggestion - **NA**

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Feedback/ Suggestion - **NA**

6. Does the program evaluate and report Programme and course learning outcomes.

Feedback/ Suggestion - **NA**

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Feedback/ Suggestion - **NA**

8. Does the course have topics and reference books have contents of relevance to all above.

Feedback/ Suggestion - **NA**

9. Does the course provide opportunities for display of different attributes of learners.

Feedback/ Suggestion - **NA**

10. Does the course promote innovation, creativity and novelty among learners.

Feedback/ Suggestion - **NA**

11. Does the course cater to changing learner requirements and characteristics.

Feedback/ Suggestion - **NA**

12. Does the course promote valid, reliable and transparent assessment procedures.

Feedback/ Suggestion - **NA**



political science <polscience.du@gmail.com>

LOCF:DU, feedback and suggestions for LOCF

13 messages

LOCF:DU Team <ugcr2019@du.ac.in>

Thu, May 16, 2019 at 9:54 PM

Reply-To: "LOCF:DU Team" <ugcr2019@du.ac.in>

To: Member <polscience.du@gmail.com>

Dear Member,

The University of Delhi is revising the Under-Graduate Curriculum in the light of UGC's Learning Outcome-Based Curriculum Framework (UGC-LOCF).

Feedback and Suggestions

Name - Tanvi

Affiliation - Dewan public school

Email - yo14jit@gmail.com

Mobile - 8650808011

Department of Political Science
(CBCS) B.A.(HONS.) POLITICAL SCIENCE

1. Does the program help in implementing a sustainable assessment process to promote students to acquire knowledge, skills, desirable attitudes leading to Higher-order decision making and problem-solving abilities.
Feedback/ Suggestion - **Yes**

2. Does the program assure the pursuance of a Quality and Values-Based system of Education.
Feedback/ Suggestion - **Yes**

3. Does the program initiates inquiry-based, demonstration-based learning environment.
Feedback/ Suggestion - **Yes**

4. Does the program provide feedback and insight for continuous improvement in the teaching-learning process.
Feedback/ Suggestion - **Yes**

5. Does the program ensure advancement towards national and global concerns/ goals.
Feedback/ Suggestion - **Yes**

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Feedback/ Suggestion - **Yes**

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Feedback/ Suggestion - **Yes**

8. Does the course have topics and reference books have contents of relevance to all above.
Feedback/ Suggestion - **Yes**

9. Does the course provide opportunities for display of different attributes of learners.
Feedback/ Suggestion - **Yes**

10. Does the course promote innovation, creativity and novelty among learners.
Feedback/ Suggestion - **Yes**

11. Does the course cater to changing learner requirements and characteristics.
Feedback/ Suggestion - **Yes**

12. Does the course promote valid, reliable and transparent assessment procedures.
Feedback/ Suggestion - **Yes**



political science <polscience.du@gmail.com>

LOCF:DU, feedback and suggestions for LOCF

2 messages

LOCF:DU Team <ugcr2019@du.ac.in>

Wed, Jun 12, 2019 at 2:16 PM

Reply-To: "LOCF:DU Team" <ugcr2019@du.ac.in>

To: Member <polscience.du@gmail.com>

Dear Member,

The University of Delhi is revising the Under-Graduate Curriculum in the light of UGC's Learning Outcome-Based Curriculum Framework (UGC-LOCF).

Feedback and Suggestions

Name - Dr. Deepak Kumar Pandey

Affiliation - Associate Professor Government PG College Bazpur US Nagar (Uttarakhand)

Email - deepakbanti@gmail.com

Mobile - 8077927057

Department of Political Science

B.A. (Hons.) Political Science

1. Does the program help in implementing a sustainable assessment process to promote students to acquire knowledge, skills, desirable attitudes leading to Higher-order decision making and problem-solving abilities.
Feedback/ Suggestion - **Political Ideas prevalent in Indian System should also get included into curriculum and its comparative analysis vis a vis modern political theories be made. Leadership and political decision making should also be included into the curriculum.**

2. Does the program assure the pursuance of a Quality and Values-Based system of Education.
Feedback/ Suggestion - **Yes**

3. Does the program initiates inquiry-based, demonstration-based learning environment.
Feedback/ Suggestion - **Yes**

4. Does the program provide feedback and insight for continuous improvement in the teaching-learning process.
Feedback/ Suggestion - **Yes**

5. Does the program ensure advancement towards national and global concerns/ goals.
Feedback/ Suggestion - **Comparative Study of Governance and Policy in Colonial and Independent India should also get its place to have an insight about national aspirations and goals and its gradual achievement. Constitutional Government and Democracy in India should be Studied in different ages.**

6. Does the program evaluate and report Programme and course learning outcomes.
Feedback/ Suggestion - **Yes**

7. Does the course ensure attainment of minimal level of expected graduate attributes such as knowledge, ethical and social values, skills and the upskilling in 4th Industrial revolution needs, global outlook, perception for local needs, corporate social responsibilities and perception for public good and societal needs.
Feedback/ Suggestion - **Curriculum Should relate to societal values and political development. Comparative assessment of different leadership attributes should also be included into the curriculum. Social involvement and the attitude towards society should also be evaluated.**

8. Does the course have topics and reference books have contents of relevance to all above.
Feedback/ Suggestion - **Yes**

9. Does the course provide opportunities for display of different attributes of learners.
Feedback/ Suggestion - **Yes**

10. Does the course promote innovation, creativity and novelty among learners.
Feedback/ Suggestion - **Yes**

Masters of Science
PLANT MOLECULAR BIOLOGY AND BIOTECHNOLOGY (PMBB)
Department of Plant Molecular Biology
University of Delhi South Campus

Comments from Experts on the Revised syllabus

(1). Prof. S. K. Sopory (JNU, New Delhi)

From: **sudhir sopory** <sopory@hotmail.com>

Date: Wed, May 23, 2018 at 11:21 AM

Subject: Re: Revised syllabus of Plant Molecular Biology & Biotechnology (PMBB)

To: Paramjit Khurana <param@genomeindia.org>

Dear Prof. Paramjit Khurana

The revised syllabus that you have developed is appropriate in view of the strengths and specialization of the faculty members.

A few suggestions:

1. In some course do include a lecture on molecular evolution of plants
2. In course 801: include under hormones, strigolactone ; under seed development one can also take up discussion on fertilization and incompatibility ; would be nice to include a lecture on pattern formation and root development etc
3. in course 901: can include , Epitranscriptome concept ; also a full lecture on transposons (especially since discovered in plants)
4. in 804: a lecture on use of artificial intelligence in big data analysis
5. in 702: under nucleus one can include eu - and heterochromatin and something about Telomers and telomerases

I do not know in which course but one could teach something about cell to cell and organ to organ long distance signaling via plasmodesmata and phloem respectively. Concept of movement of proteins, RNA, microRNAs is gaining ground .

I wish I was that many years younger to have opted for some of your courses!

Best wishes and regards

Sudhir Sopory

(2). Dr. Arnab Mukhopadhyay, Staff Scientist, NII, New Delhi (Alumni)

From: **Arnab Mukhopadhyay** <arnab@nii.ac.in>

Date: Mon, May 28, 2018 at 3:24 PM

Subject: Re: Comments on Revised MSc course (PMBB)

To: head.pmb@gmail.com

Cc: Saurabh Raghuvanshi <saurabh@genomeindia.org>

Dear Saurabh

I quickly went over the course material . The syllabus is quite robust and well-designed, covering most of the basic biology and advanced topics. I have only a few comments:

- 1) The core course components should have the biosafety and radiation safety concepts. Right

now, they are in the elective- Imaging part.

2) The PMBB 0901 teaches the eukaryotic genome in the Semester III. However, you are taking the Bioinformatics and data informatics, that will require extensive understanding of the genome, in the Sem I and II. This may be looked into.

3) While having Stress Biology as an elective course is a great idea, the students should also get an exposure to stress biology in the main course. I did not see that. Also, organelle-specific stress response like mitochondrial and ER stress response should be incorporated in the basic cell biology itself. I did not see mention of protein folding etc. also.

Please get back to me if you need any clarification.

best regards

Arnab

Arnab Mukhopadhyay, Ph.D.

Staff Scientist

Molecular Aging Lab

National Institute of Immunology

Aruna Asaf Ali Marg, New Delhi 110067, India

Phone: 011 26703885, 26715035

Website: <http://www.nii.res.in/research/arnab-mukhopadhyay>

<https://sites.google.com/a/nii.ac.in/arnab/>

(3) Dr. Saloni Mathur, Staff Scientist, NIPGR, New Delhi (Alumni)

From: **Saloni Mathur** <saloni@nipgr.ac.in>

Date: Mon, May 28, 2018 at 1:04 PM

Subject: comments for course-work at PMBB

To: head.pmb@gmail.com

Dear ma'am,

The course looks appealing with balanced incorporation of different topics and suitably revised to include latest aspects. The provision of electives is a very welcome change since it gives an opportunity to the student to indulge deeply in a particular aspect. Further, the inclusion of hands-on training in the electives is very important as it will impart practical training to the students, which is much needed for any 'actual' understanding of the subject. Similarly, the open elective paper on topics required for analysis of large scale data and for future relevance like 'Data analytics and Biocuration' is also a good addition. However, it must include sufficient practical training as well. This can be easily done by providing practical oriented lectures.

best

Dr. Saloni Mathur

Staff Scientist III

National Institute of Plant Genome Research

Aruna Asaf Ali Marg

New Delhi-110067

India

(4) Ms. Harsha Samtani (PhD scholar, DPMB, UDSC)

From: **Samtani Harsha** <harshasimply.sam@gmail.com>

Date: Fri, May 25, 2018 at 9:08 PM

Subject: Comments regarding the new M.Sc Syllabus

To: head.pmb@gmail.com

Respected ma'am

I think the course is well structured according to the new guidelines. All the internal elective theory papers are very interesting. Papers like "Advanced Plant Imaging techniques" and "Small RNA Biology and Epigenetics" will help students to acquire specific practical skills and also will update them with recent upcomings in the field. Even the open elective course appears to be very informative and will provide students with both data analysis as well as computer programming skills. Overall, I feel the new syllabus has become more specialized now.

Regards

Harsha Samtani

(5). Ms. Shaloo Meena (PhD scholar, DPMB, UDSC)

From: **Shaloo Meena** <shaloomeena@gmail.com>

Date: Mon, May 28, 2018 at 11:17 PM

Subject: Regarding M.Sc. Syllabus

To: head.pmb@gmail.com

Respected Ma'am

I am writing this regarding to the syllabus of M.Sc. I feel that the syllabus has been nicely designed, it is complete and offers the students with large spectrum of plant molecular biology. Now a days, it is very important that a student should knows the concepts of the basic statistical methods used to conduct a research study. so,i would like to suggest that there should be a topic on biostats that emphasise on stats analysis of data and the different softwares that are available for statistics.

Thank you

Regards

--

Shaloo Meena

Ph.D. Scholor

Response to Comments from Experts on the Revised syllabus

(1) Prof. S. K. Sopory (JNU, New Delhi)

The revised syllabus that you have developed is appropriate in view of the strengths and specialization of the faculty members. A few suggestions:

Comment: In some course do include a lecture on molecular evolution of plants

Response: *These aspects have been appended in the course.*

Comment: In course 801: include under hormones, strigolactone ; under seed development one can also take up discussion on fertilization and incompatibility ; would be nice to include a lecture on pattern formation and root development etc.

Response: *These aspects have been appended in the course.*

Comment: in course 901: can include , Epitranscriptome concept ; also a full lecture on transposons (especially since discovered in plants).

Response: *These aspects have been appended in the course.*

Comment: in 804: a lecture on use of artificial intelligence in big data analysis.

Response: *This aspect is already included in this paper*

Comment: in 702: under nucleus one can include eu - and heterochromatin and something about Telomeres and telomerases.

Response: *These aspects have been appended in the course.*

Comment: I do not know in which course but one could teach something about cell to cell and organ to organ long distance signaling via plasmodesmata and phloem respectively. Concept of movement of proteins, RNA, microRNAs is gaining ground .

Response: *These topics have been suitably integrated in the syllabus*

(2) Dr. Arnab Mukhopadhyay, Staff Scientist, NII, New Delhi (Alumni)

Comment: The syllabus is quite robust and well-designed, covering most of the basic biology and advanced topics. I have only a few comments:

The core course components should have the biosafety and radiation safety concepts. Right now, they are in the elective- Imaging part.

Response: *This aspect is covered while conducting the relevant practicals during the course.*

Comment: The PMBB 0901 teaches the eukaryotic genome in the Semester III. However, you are taking the Bioinformatics and data informatics, that will require extensive understanding of the genome, in the Sem I and II. This may be looked into.

Response: *The course on bioinformatics is very introductory in nature and does not require extensive knowledge of genome level data. These aspects of analysis are covered in the advanced paper in entitled 'Data analytics and Biocuration (PMBB804)'.*

Comment: While having Stress Biology as an elective course is a great idea, the students should also get an exposure to stress biology in the main course. I did not see that. Also, organelle-specific stress response like mitochondrial and ER stress response should be incorporated in the basic cell biology itself. I did not see mention of protein folding etc. also.

***Response:** The basic aspects of stress biology are introduced in the core paper on 'Agricultural Biotechnology (PMBB903)'*

(3). Dr. Saloni Mathur, Staff Scientist, NIPGR, New Delhi (Alumni)

Comment: The course looks appealing with balanced incorporation of different topics and suitably revised to include latest aspects. The provision of electives is a very welcome change since it gives an opportunity to the student to indulge deeply in a particular aspect. Further, the inclusion of hands-on training in the electives is very important as it will impart practical training to the students, which is much needed for any 'actual' understanding of the subject. Similarly, the open elective paper on topics required for analysis of large scale data and for future relevance like 'Data analytics and Biocuration' is also a good addition. However, it must include sufficient practical training as well. This can be easily done by providing practical oriented lectures.

***Response:** The open elective paper will include a complete hands-on training approach wherein lectures and practical would be taken simultaneously in a computer lab.*

(4). Ms. Harsha Samtani (PhD scholar, DPMB, UDSC)

Comment: I think the course is well structured according to the new guidelines. All the internal elective theory papers are very interesting. Papers like "Advanced Plant Imaging techniques" and "Small RNA Biology and Epigenetics" will help students to acquire specific practical skills and also will update them with recent upcomings in the field. Even the open elective course appears to be very informative and will provide students with both data analysis as well as computer programming skills. Overall, I feel the new syllabus has become more specialized now.

(5). Ms. Shaloo Meena (PhD scholar, DPMB, UDSC)

Comment: I am writing this regarding to the syllabus of M.Sc. I feel that the syllabus has been nicely designed, it is complete and offers the students with large spectrum of plant molecular biology. Now a days, it is very important that a student should know the concepts of the basic statistical methods used to conduct a research study. so, i would like to suggest that there should be a topic on biostats that emphasise on stats analysis of data and the different softwares that are available for statistics.

***Response:** the basics of statistical analysis would be taken up in the paper on 'Data analytics and Biocuration (PMBB804)'.*



UNIVERSITY OF DELHI SOUTH CAMPUS
(DEPARTMENT OF MICROBIOLOGY)

Date: 14/05/2018

A meeting of 'Committee of Courses' was called to discuss revision of M.Sc. course syllabus to be framed under CBCS mode. The following members were present:

1. Prof. Rani Gupta
2. Prof. I.Das Gupta(PMB)
3. Prof. I.S.Thakur (JNU-SES)
4. Prof. Virdi
5. Prof. Swati Saha
6. Dr. Y.P.Khasa
7. Dr. Rajeev Kaul
8. Dr. A.Archana (SSN)
9. Dr. Kusum Gupta (RLA)
10. Dr. Shashi Chawla (Gargi)
11. Shilpa Mohanty (Student)
12. Ms. Ashish Singh (Student)

The committee was briefed about how the curriculum was developed after taking feedback from all stakeholders including current students, alumni, industry representatives, and external experts. This was followed by discussion of syllabus of all courses one by one. In discussion following points were raised:

1. The open elective course may be open to own department students also.
2. The syllabus of Microbial Biotechnology course may be modified accordingly.
3. The description of practicals included in practical courses to be given in more detail.
4. In Food Microbiology course, the topic on 'Neutraceuticals' is to be added.
5. The points raised by External Experts were discussed in detail and it was decided to add the following in the courses:
 - i) In Environmental Microbiology paper 'Biogas Production' topic to be included in theory, and 'Estimation of B.O.D.' in practical-2
 - ii) Most of the other minor points raised by Experts were taken into consideration.

Finally the syllabus was approved with minor changes.

Rani Gupta
14/05/18

I.Das Gupta

I.S.Thakur

J.S.Virdi

Swati Saha

Y.P.Khasa

Rajeev Kaul

Kusum Gupta

Shashi Chawla

A.Archana

Shilpa Mohanty
(Student Invitee)

Ashish Singh
(Student Invitee)

Dear Prof. Gupta,

I have gone through M.Sc. Microbiology Course. Course structure is well planned and includes all the aspects of Molecular Microbiology. Course content is exhaustive. I have only very few observations/ suggestions.

1. 0702 Microbial Physiology and Metabolism: may include photosynthesis: Cyclic and noncyclic photophosphorylation (to give an idea that photoautotrophs like algae and cyanobacteria have different way of energy production)
2. 0703 Introduction to Virology: Viruses of bacteria, animals and plants their classification, isolation and cultivation.
3. Since four courses are elective and some of the students may miss fundamentals of Biophysical methods and part of bioinformatics. Only basic part of these courses (may be restricted to a few lectures) be included in other core courses or may be taught in lab courses.
4. Industrial microbiology is more like Biochemical Engineering courses in nutshell. This course may include Petroleum Microbiology, Engineering of microbes for industrial applications.

My general observation is that course is leaning towards Molecular microbiology than general microbiology which is good to teach in Modern Microbiology course. However, It will be good idea to retain fundamentals of classical microbiology such as pure culture techniques, noncultureable organisms, metagenomics, tetrad analysis etc. and if required some parts of molecular biology course may be reduced.

Kindly, ignore my suggestions if some of these are already embedded in course structure.

with best regards,

Prashant



rani gupta <ranigupta.udsc57@gmail.com>

Fwd: Re: requesting for suggestions regarding proposed revised M.Sc. syllabus

3 messages

lata_micro@iari.res.in <lata_micro@iari.res.in>
To: ranigupta.udsc57@gmail.com

Sat, May 5, 2018 at 11:14 AM

----- Forwarded Message -----

From: lata micro <lata_micro@iari.res.in>
To: microbiology southdelhicampus <microsdsc@yahoo.co.in>
Sent: Sat, 05 May 2018 20:18:21 +0530 (IST)
Subject: Re: requesting for suggestions regarding proposed revised M.Sc. syllabus

Dear Dr Gupta,

The syllabus is good.

I feel plant pathogen interaction course should be named as plant microbe interaction. you may include beneficial microbes, nitrogen fixation etc. biofertilizers may be included in this course.

Similarly, include biogas production and methanogens in the course of environmental microbiology.

Practicals on waste water treatment and BOD/ COD may be included in this course.

I appreciate your efforts in the area of medical microbiology but there is less stress on soil microbiology.

Overall syllabus is very good and latest topics have been added.

All the best.

In future, pl use my yahoo e mail to correspond.

Thanks and regards

Lata

----- Original Message -----

From: microbiology southdelhicampus <microsdsc@yahoo.co.in>
To: Prof. Arif Ali <aali@jmi.ac.in>, Prof Arif Ali <aliarif@rediffmail.com>, Prashant Mishra <prashant.mishra@dbec.iitd.ac.in>, lata micro <lata_micro@iari.res.in>, SUNIL KUMAR KHARE <skhare@rocketmail.com>
Sent: Fri, 04 May 2018 16:13:59 +0530 (IST)
Subject: requesting for suggestions regarding proposed revised M.Sc. syllabus

Dear Professor,

Department is in the process of revising M.Sc. syllabus to be implemented from 2018 onward. We have revised the syllabus after taking into consideration of our stakeholders, students, alumni and industry. I request you to kindly go through it and suggest any further improvement which can be incorporated and kept before committee of courses for finalizing on 9th May. I request you to send your suggestions by email early morning on 9th May. I am sorry that it is a very very short notice but we have just been informed by the University that we have to get reviewed by external expert before holding committee of courses. Sorry for inconvenience but I hope you will do the needful.

Thanks,

Prof. Rani Gupta (HOD)
Department of Microbiology University of Delhi South Campus
Benito Juarez Road
New Delhi-110021
Ph: 011-24157240, Fax: 011-24115270
Website: <http://www.du.ac.in/du/index.php?page=microbiology>
Alternate email: microsdsc@south.du.ac.in; ranigupta.udsc57@gmail.com

lata_micro@iari.res.in <lata_micro@iari.res.in>
To: ranigupta.udsc57@gmail.com

Sat, May 5, 2018 at 11:15 AM

Dear madam, please find my comments in the forwarded mail.

[Quoted text hidden]

rani gupta <ranigupta.udsc57@gmail.com>

Sat, May 5, 2018 at 11:16 AM