

ACTION TAKEN REPORT

**Department of Mathematics
(School of Physical Sciences)**

Academic Year 2021-2022 to 2017-2018



DIT UNIVERSITY

Mussoorie Diversion Road Dehradun, Uttarakhand-248009

Department of Mathematics Action taken report for 2021

Action taken report: BOS 13-03-2021
Academic Council (AC) Item No.: AC 18.4


Item Number	Agenda and Minutes	Action taken								
BOS 7.2	To confirm the minutes of the 6 th Meeting of the BOS held on 06 April 2020. No comments were received, and the Board confirmed the minutes of 6 th meeting.									
BOS 7.3	To report the actions taken on the decisions taken in the 6 th Meeting of the BOS held on 06 th April 2020. The Board was informed that as decided in the last meeting, some minor changes that were suggested in the syllabi of the B.Sc. (Hons) Mathematics and Engineering mathematics, have been duly incorporated. Further, all the new suggested courses also incorporated in the revised structure of the B.Sc. (Hons) Mathematics.									
BOS 7.4	To deliberate on the revised course structure and the syllabus for B.Sc. (Hons) Mathematics program in view of implementing New Education Policy and Fully Flexible Choice Based Credit System (FFCBCS). The course structure and syllabi of various courses of Fully Flexible Choice Based Credit System (FFCBCS) in view of implementing New Education Policy for B.Sc. (Hons.) Mathematics were discussed in detail and approved by BOS. Following new courses have been added in the curriculum:	The course structure and syllabi of the courses offered in the program were put up for discussion. After going through the same, the learned members approve the same. Further, UG course coordinator has been advised to take care the addition of new courses to meet the requirement and suggestions by the board members.								
	<table border="1" style="width: 100%;"> <tbody> <tr> <td>Statistical Quality Control</td> <td>Econometrics</td> </tr> <tr> <td>Introduction to SPSS</td> <td>Introduction to R Programming</td> </tr> <tr> <td>Aptitude and Skill Enhancement-I</td> <td>Aptitude and Skill Enhancement-II</td> </tr> <tr> <td>Fundamentals of Advanced Mathematics -II</td> <td>Financial Mathematics</td> </tr> </tbody> </table>	Statistical Quality Control	Econometrics	Introduction to SPSS	Introduction to R Programming	Aptitude and Skill Enhancement-I	Aptitude and Skill Enhancement-II	Fundamentals of Advanced Mathematics -II	Financial Mathematics	
Statistical Quality Control	Econometrics									
Introduction to SPSS	Introduction to R Programming									
Aptitude and Skill Enhancement-I	Aptitude and Skill Enhancement-II									
Fundamentals of Advanced Mathematics -II	Financial Mathematics									
BOS 7.5	To deliberate on the course structure and the syllabus of Fully Flexible Choice Based Credit System (FFCBCS) for B.Sc. (Hons.) Statistics (New Program). The members of the Board of Studies discussed on the course structure of Fully Flexible Choice Based Credit system (FFCBCS) for B.Sc. (Hons.) Statistics program. They appreciated the initiative taken towards New Education Policy and approved the course structure and syllabi.									

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BOS 7.6	<p>To deliberate on the course structure and the syllabus of Choice Based Credit System (CBCS) for M.Sc. (Mathematics) (New Program).</p> <p>The course structure and syllabi of a new program M.Sc. (Mathematics) was presented to members of BOS for discussion. They agreed with the course structure and its syllabi.</p>	
BOS 7.7	<p>To include a 2-credit course on 'Research and Publication Ethics' in PhD course structure.</p>	<p>The PG Course coordinator is assigned to incorporate the suggestion.</p>
BOS 7.8	<p>To discuss the basket of courses to be offered for awarding a minor</p> <ul style="list-style-type: none">(i) Pure Mathematics(ii) Applied Mathematics(iii) Statistics <p>The above basket of courses to be offered for awarding a minor were reviewed critically and approved by BOS.</p>	
BOS 7.9	<p>To deliberate on introducing open/free electives from Department of Mathematics for other schools. The syllabi of the following courses to be put up for discussions:</p> <ul style="list-style-type: none">(i) Computational methods in Engineering(ii) Applied Mathematics for Electrical and Electronics Engineers(iii) Graph theory and Optimization Techniques(iv) Number Theory(v) Applied Mathematics for Electronics(vi) Number Theory and Cryptography(vii) Computational Methods in Engineering <p>The syllabi for the above courses to be offered to the B. Tech. students was reviewed and approved by BOS.</p>	


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Department of Mathematics Action taken report for 2020

Action Taken Report: BOS 06/04/2020
Academic Council (AC) Item No.: AC 14.12

Item Number	Agenda and Minutes	Action taken										
BOS 6.1	The meeting started with a warm welcome to all the members including the external members by the Chairperson.											
BOS 6.2	The leave of absence was granted to the members who could not attend the meeting due to prior appointments. The Chairperson, after asked the member secretary to present the agenda of the meeting, item by item.											
BOS 6.3	Deliberation on finalization of the revised course structure for B.Sc. (H) Mathematics according to CBCS was discussed. The draft of revision in the course structure of B.Sc. (Hons.) Mathematics as per the guidelines given by UGC was discussed thoroughly.	All recommendations of BOS experts and suggestions given by students, parents and industry experts were incorporated.										
BOS 6.4	<p>Deliberation on finalizing the syllabus of newly added courses in B.Sc. (H) Mathematics course structure: The recommendations of BOS experts and suggestions of Students, parents and Industry experts are as follows:</p> <ol style="list-style-type: none"> 1) For the benefit of mathematics students the syllabi of "Introduction to Mechanics" should be merged with Dynamics & Statics. 2) The course Linear Programming has wide range of applications in industry. So, the syllabus has been revised, accordingly. 3) The course Statistical Techniques has been revised to incorporate Fundamentals of Probability. It has been renamed as Probability theory and Mathematical Statistics and the syllabus has been revised. 4) The syllabus of the following courses have been proposed for revision: <table border="1" style="margin-left: 20px;"> <tr> <td>Linear algebra</td> <td>Calculus - I</td> </tr> <tr> <td>Computer Based Numerical Techniques</td> <td>Calculus - II</td> </tr> <tr> <td>Complex Analysis</td> <td>Real Analysis - I</td> </tr> <tr> <td>Tensors & Differential Geometry</td> <td>Solid Geometry</td> </tr> <tr> <td>Ordinary Differential Equations</td> <td></td> </tr> </table> 5) The experts suggested that there should be summer internship for students in either V sem or VI Sem to get the industry-exposure. Industry visits should be a part of their regular curriculum. 	Linear algebra	Calculus - I	Computer Based Numerical Techniques	Calculus - II	Complex Analysis	Real Analysis - I	Tensors & Differential Geometry	Solid Geometry	Ordinary Differential Equations		<ol style="list-style-type: none"> 1. The recommendation of merging of syllabi was incorporated. 2. Keeping in the applications of Linear Programming, the syllabus of the same has been revised as per the recommendation. 3. The course Statistical Techniques has been revised to incorporate the fundamentals of the subject and has been renamed as Probability theory and Mathematical Statistics with revised syllabus. 4. Suggestions of revision in the syllabi of courses mentioned in agenda point 4) have been incorporated. 5. The UG coordinator was advised to collaborate with CDC to initiate such industry exposure.
Linear algebra	Calculus - I											
Computer Based Numerical Techniques	Calculus - II											
Complex Analysis	Real Analysis - I											
Tensors & Differential Geometry	Solid Geometry											
Ordinary Differential Equations												

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	<p>6) Due to its wide applications, Graph theory should be a core subject and Discrete Mathematics must be removed from the course structure.</p> <p>7) Lab based on mathematical software and LaTeX for technical writing along with following additional courses that have been introduced to enhance computational skills and employability of students:</p> <table border="1" data-bbox="381 646 1015 1020"> <tr> <td>Lab Based on MS Office</td> <td>Dynamics & Statics</td> </tr> <tr> <td>Algebra</td> <td>Ring Theory</td> </tr> <tr> <td>Real Analysis - II</td> <td>Special Functions</td> </tr> <tr> <td>Lab Based on Mathematical Software</td> <td>Workshop</td> </tr> <tr> <td>Lab Based on Python</td> <td>Financial Mathematics</td> </tr> <tr> <td>Graph Theory</td> <td>Biostatistics</td> </tr> <tr> <td>Integral Transform</td> <td>Number theory & Cryptography</td> </tr> <tr> <td>Fuzzy Sets & Fuzzy Logic</td> <td></td> </tr> </table>	Lab Based on MS Office	Dynamics & Statics	Algebra	Ring Theory	Real Analysis - II	Special Functions	Lab Based on Mathematical Software	Workshop	Lab Based on Python	Financial Mathematics	Graph Theory	Biostatistics	Integral Transform	Number theory & Cryptography	Fuzzy Sets & Fuzzy Logic		<p>6. As per the suggestions, Graph Theory was considered as a core subject and Discrete Mathematics has been removed from course structure.</p> <p>7. Lab based on mathematical software and LaTeX for technical writing along with additional courses mentioned in agenda point 7) have been introduced in the program.</p>
Lab Based on MS Office	Dynamics & Statics																	
Algebra	Ring Theory																	
Real Analysis - II	Special Functions																	
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Integral Transform	Number theory & Cryptography																	
Fuzzy Sets & Fuzzy Logic																		
<p>BOS 6.5</p>	<p>Deliberation on finalizing the syllabus of open electives:</p> <p>a. Statistical Techniques and Their Applications (MA451) b. Optimization Techniques (MA452)</p> <p>Syllabi for open elective courses (Statistical Techniques & Their Application and Optimization Techniques) for B. Tech Students are presented to BOS experts, they found the syllabus of both the subjects appropriate.</p> <p>The BOS experts found the syllabi of open elective courses (Statistical Techniques & Their Application, and Optimization Techniques) for B. Tech Students appropriate.</p>																	
<p>BOS 6.6</p>	<p>Deliberation on finalizing the revised syllabus for B. Tech program by Department of Mathematics, DIT University:</p> <p>(i) Engineering Mathematics - I (MA101). (ii) Engineering Mathematics - II (MA102). (iii) Engineering Mathematics - III (MA201) for B. Tech (CE, ME, EE). (iv) Probability and Statistics (MA202) for B. Tech (CSE, IT, ECE, PE).</p> <p>Revision of Engineering Mathematics courses, namely Engineering Mathematics - I (MA101), Engineering Mathematics - II (MA102), Engineering Mathematics - III (MA201) and Probability and Statistics (MA202) as per the guidelines of AICTE were discussed in meeting thoroughly. The board discussed it and after detailed deliberations, they found it appropriate.</p>																	
<p>BOS 6.7</p>	<p>To present the syllabus for course work of Ph. D. (Mathematics) including Research and Publication Ethics as per MHRD notification.</p>	<p>The PG coordinator is advised to prepare the detailed draft for the same.</p>																

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Department of Mathematics Action taken report for 2019

Action taken report: BOS 27-03-2019

Academic Council (AC) Item No.: 11.11

Item Number	Agenda and Minutes	Action taken
BOS 5.02	To confirm the minutes of the 4th Meeting of the BOS held on 14th March, 2018. The minutes of the 4th meeting were circulated to all the members on 16.03.2018 and comments of the learned members were invited. Since no comments were received, the Board confirmed the minutes of the 4th meeting unanimously.	
BOS 5.03	To report the actions taken on the decisions made in the 4th Meeting of the Board of Studies held on 14th March, 2018. The Board was informed that as decided in the last meeting, some minor changes that were suggested in the syllabi of the B.Sc (Hons) Mathematics and Diploma Engineering, have been duly incorporated	
BOS 5.04	To deliberate on the existing course structure and syllabi of the B.Sc (Hons) Mathematics program of 2017-20 batch. The course structure and syllabi of the courses offered in the above program were put up for discussion. After going through the same, the learned members suggested the following modifications: The course "Metric Spaces" is to be shifted as an elective in the 6th semester, whereas the course "Graph Theory" is to be offered as a core course with subject code MA 317. Course content for Linear Algebra (MA106) is to be modified as: In Unit I, Cramer's rule is to be removed. Course content of Ordinary Differential Equation and Laplace transform (MA116) is to be modified as: In Unit IV, "Laplace of some standard function" is to be replaced by "Definition of Laplace transforms and some examples". Applications pertaining to industry should be included in the syllabus of the course. The course Partial Differential Equation (MA208) should be made more application oriented. The contents of Unit III and Unit IV should be combined as Unit III and Unit V is to be named as Unit IV. Objective of the course Differential Geometry (MA307) is to be written again highlighting the goals. In the syllabus of the course Mathematical Methods (MA308) Schaum's Series may be consider as a text book. The syllabus of the course Discrete Mathematics (MA309) is to be modified and submitted again. The syllabus of the course Integral Equations (MA316) is to be modified as: Unit IV is to be rewritten as "Green's function and its application in Initial and Boundary Value Problems to integral equations,	The syllabus was modified as suggested. Syllabus for the course on Graph Theory has been included in the syllabus and the course on Metric Space has been shifted. Suggestions for correction in the course contents for the courses Linear Algebra (MA106) Ordinary Differential Equation and Laplace transform (MA116) has been incorporated in the syllabus. We have added more application oriented problems in the course Partial Differential Equation (MA208). The modification suggested in the course Differential Geometry (MA307) has been implemented. Schaum's Series is added as a text book in the course Mathematical Methods (MA308) The syllabus for the course Discrete Mathematics (MA309) has been modified suitably. Suggested changes in the course Integral Equations (MA316) have been implemented.



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	<p>Conversion of a Boundary Value Problem into Fredholm integral equation" and Unit V is to be rewritten as "Solution of integral equations using integral transform, Singular integral equation, Applications of integral equations to differential equations and Boundary Value Problem".</p> <p>The syllabus of the course Graph Theory (MA346) is to be rewritten as per the suggested recommendations and submitted again.</p>	<p>Syllabus for the course Graph Theory (MA346) has been rewritten as per the suggestions made by BOS experts.</p>
BOS 5.05	<p>To deliberate on the syllabus for the M.Sc. (Mathematics and Computing) program.</p> <p>The courses suggested for the syllabus of M.Sc. (Mathematics and Computing) were visited thoroughly and found suitable.</p>	
BOS 5.06	<p>To deliberate on the courses offered for PhD program.</p> <p>Suggested course structure was discussed thoroughly and found satisfactory.</p>	




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Action Taken Report (2018-19) Department of Applied Sciences (Mathematics)

Action taken report: BOS 27-03-2019

Item Number	Agenda and Minutes	Action taken
BOS 5.02	<p>To confirm the minutes of the 4th Meeting of the BOS held on 14th March, 2018.</p> <p>The minutes of the 4th meeting were circulated to all the members on 16.03.2018 and comments of the learned members were invited. Since no comments were received, the Board confirmed the minutes of the 4th meeting unanimously.</p>	
BOS 5.03	<p>To report the actions taken on the decisions made in the 4th Meeting of the Board of Studies held on 14th March, 2018.</p> <p>The Board was informed that as decided in the last meeting, some minor changes that were suggested in the syllabi of the B.Sc (Hons) Mathematics and Diploma Engineering, have been duly incorporated</p>	
BOS 5.04	<p>To deliberate on the existing course structure and syllabi of the B.Sc (Hons) Mathematics program of 2017-20 batch.</p> <p>The course structure and syllabi of the courses offered in the above program were put up for discussion. After going through the same, the learned members suggested the following modifications: The course "Metric Spaces" is to be shifted as an elective in the 6th semester, whereas the course "Graph Theory" is to be offered as a core course with subject code MA 317. Course content for Linear Algebra (MA106) is to be modified as: In Unit I, Cramer's rule is to be removed. Course content of Ordinary Differential Equation and Laplace transform (MA116) is to be modified as: In Unit IV, "Laplace of some standard function" is to be replaced by "Definition of Laplace transforms and some examples". Applications pertaining to industry should be included in the syllabus of the course. The course Partial Differential Equation (MA208) should be made more application oriented. The contents of Unit III and Unit IV should be combined as Unit III and Unit V is to be named as Unit IV. Objective of the course Differential Geometry (MA307) is to be written again highlighting the goals. In the syllabus of the course Mathematical Methods (MA308) Schaum's Series may be consider as a text book. The syllabus of the course Discrete Mathematics (MA309) is to be modified and submitted again. The syllabus of the course Integral Equations (MA316) is to be modified as: Unit IV is to be rewritten as "Green's function and its application in Initial and Boundary Value Problems to integral equations, Conversion of a Boundary Value Problem into Fredholm integral</p>	<p>The syllabus was modified as suggested. Syllabus for the course on Graph Theory has been included in the syllabus and the course on Metric Space has been shifted.</p> <p>Suggestions for correction in the course contents for the courses Linear Algebra (MA106) Ordinary Differential Equation and Laplace transform (MA116) has been incorporated in the syllabus. We have added more application oriented problems in the course Partial Differential Equation (MA208).</p> <p>The modification suggested in the course Differential Geometry (MA307) has been implemented. Schaum's Series is added as a text book in the course Mathematical Methods (MA308)</p> <p>The syllabus for the course Discrete Mathematics (MA309) has been modified suitably. Suggested changes in the course Integral Equations (MA316) have been implemented.</p> <p>Syllabus for the course Graph Theory (MA316) has been</p>



	equation" and Unit V is to be rewritten as "Solution of integral equations using integral transform, Singular integral equation, Applications of integral equations to differential equations and Boundary Value Problem". The syllabus of the course Graph Theory (MA346) is to be rewritten as per the suggested recommendations and submitted again.	rewritten as per the suggestions made by BOS experts.
BOS 5.05	To deliberate on the syllabus for the M.Sc. (Mathematics and Computing) program. The courses suggested for the syllabus of M.Sc. (Mathematics and Computing) were visited thoroughly and found suitable.	
BOS 5.06	To deliberate on the courses offered for PhD program. Suggested course structure was discussed thoroughly and found satisfactory.	



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Action Taken Report (2017-18) Department of Applied Sciences (Mathematics)

Action taken report: BOS 15-04-2017

Item Number	Agenda and Minutes	Action taken
1	The meeting started with a warm welcome extended to members of Board of Studies by Prof. M.C. Bhandari.	
2	The Draft revision of B.Tech. First year Mathematics courses, viz; Engg. Mathematics I (JA1010) & Engg. Mathematics II (JA2010).	The corrections suggested by the BOS experts in the course contents of JA1010 and JA2010 has been incorporated.
3	Curricula and Syllabi for new program B.Sc. (Hons.) Mathematics to be introduced from July 2017 was presented before the Board of Studies. After detailed deliberations, the attached draft of Curricula and Syllabi of above mentioned programs emerged.	The suggestion made by BOS experts for the new course B.Sc. (Hons.) Mathematics has been implemented thoroughly in the syllabi.

Action taken report: BOS 14-03-2018

Item Number	Agenda and Minutes	Action taken
1	The meeting started with a warm welcome extended to the members of Board of Studies by Prof. M. C. Bhandari.	
2	The Draft of revision of first year Mathematics courses; viz. Engineering Mathematics – I (MA 101) & Engineering Mathematics-II (MA102) as per the guidelines given by AICTE was discussed thoroughly in the meeting and all recommendations of AICTE were accepted. Only change was in arranging the order of various topics covered in course. The agreed syllabi by BOS are attached below.	Changing the order of the topics to be covered and other minor changes suggested by the BOS experts for the courses Engineering Mathematics – I (MA 101) & Engineering Mathematics-II (MA102) has been incorporated.
3	The draft of revision of the second year Engineering Mathematics III suggested by Civil and Mechanical departments was discussed in great detail. It was felt that the suggested syllabus touches only various units (topics) and not doing justice to the learning. Hence it will not serve any purpose. It was strongly felt that the present Engineering Mathematics III course should be run as it is and for the requirement of Numerical Analysis, an additional course on Numerical Analysis of 3 credits (2-1-0) should be run in the fourth semester onwards which will be extremely useful for the B.Tech. Students. It was strongly recommended by Hon'ble BOS members that the departments should accommodate both courses in their curriculum for a proper development of the students. The new agreed syllabi for the above two courses on Engineering Mathematics III and Numerical Analysis are attached below.	The recommendation made by the BOS members has been passed to the HODs Mechanical and Civil Engineering departments. The course content for the course on Numerical Analysis also has been prepared.



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