

ADAMAS UNIVERSITY

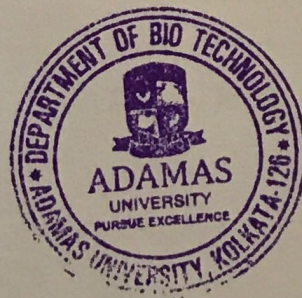
**School of Life Science & Biotechnology Department
of Biotechnology**

B.Tech. in Food Technology

PROGRAM CODE: FTH3401

Course Structure and Syllabus 2021-22

Total Credits: 180



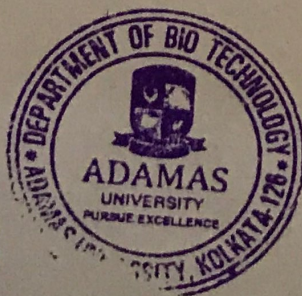
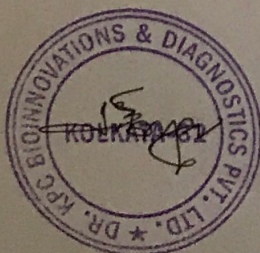
Adamas University
School of Life Science & Biotechnology
Department of Biotechnology B.Tech. (Food Technology)

YEAR 1

SEMESTER 1

No.	Type	Course Code	Course Title	L-T-P	Contact hrs/wk	Credits
1	Theory BSC	MTH11501	Engineering Mathematics-I	3-1-0	4	4
2	Theory BSC	PHY11201	Applied Science	3-0-0	3	3
3	Theory ESC	GEE11001	Electrical and Electronics Technology	3-0-0	3	3
4	Theory HSSM	ENG11053	HSSM -I (English Communication-I)	3-0-0	3	3
5	Theory BSC	BIT11103	Life Sciences	3-0-0	3	3
6	Practical BSC	PHY12202	Applied Science Lab	0-0-3	3	2
7	Practical ESC	GEE12002	Electrical and Electronics Technology Lab	0-0-3	3	2
8	Practical ESC	MEE12001	Engineering Workshop	0-0-3	3	2
9	Practical HSSM	ENG11043	Communication and Collaboration Skill -I	0-0-2	2	1
10	Practical PC	FTH14001	Capstone Project-I	0-0-2	2	1
11	Theory ESC	DGS11001	Design Thinking	2-0-0	2	2
Total				17-1-13	31	26

HSSM: Humanities, Social Science & Management, BSC: Basic Science PC: Professional Core ESC: Engineering Science



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YEAR 1

SEMESTER 2						
No.	Type	Course Code	Course Title	L-T-P	Contact hrs/wk	Credits
1	Theory BSC	MTH11502	Engineering Mathematics- II	3-1-0	4	4
2	Theory ESC	CSE11001	Introduction to Programming	3-0-0	3	3
3	Theory ESC	MEE11002	Engineering Mechanics	3-1-0	4	4
4	Theory BSC	EVS11104	Environmental Science	3-0-0	3	3
5	Practical ESC	CSE12002	Programming Lab	0-0-3	3	2
6	Practical ESC	CEE12001	Engineering Drawing and CAD	0-0-3	3	2
7	Practical HSSM	ENG11044	Communication and Collaboration Skill -II	0-0-2	2	1
8	Practical PC	FTH14002	Capstone Project-II	0-0-2	2	1
9	Practical BSC	IDP14001	Interdisciplinary Project	0-0-5	5	3
Total				12-2-15	29	23

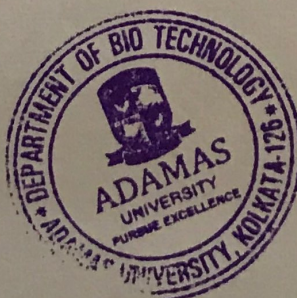
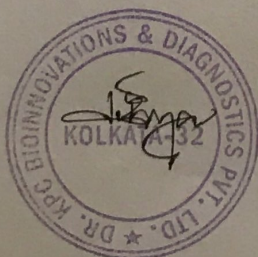
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Total Credits (First Year): 49



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YEAR 2

SEMESTER 3						
No.	Type	Course Code	Course Title	L-T-P	Contact hrs/wk	Credits
1	Theory ESC	MT H 115 27	Probability, Statistics and Numerical Methods	3-1-0	4	4
2	Practical ESC	MT H 125 31	Numerical Methods Lab	0-0-3	3	2
3	Theory PC	FTH11003	Food Biochemistry & Nutrition I	3-0-0	3	3
4	Theory PC	FTH11004	Basics of Microbiology	3-0-0	3	3
5	Practical PC	FTH12005	Food Biochemistry & Nutrition I Lab	0-0-3	3	2
6	Practical PC	FTH12006	Basics of Microbiology Lab	0-0-3	3	2
7	Theory ESC	EIC11001	Venture Ideation	2-0-0	2	2
8	Practical PC	FTH14007	Capstone Project-III	0-0-2	2	1
9	Practical HSSM	SOC14100	Community Service [#]	-	-	1
Total				14-1-8	23	20

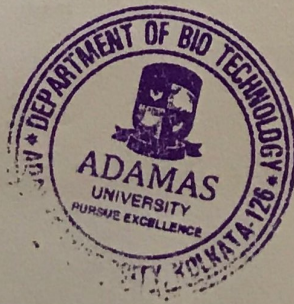
[#] CS will be taken up during the summer break after 2th semester, and will be evaluated in the 3rd semester.

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YEAR 2

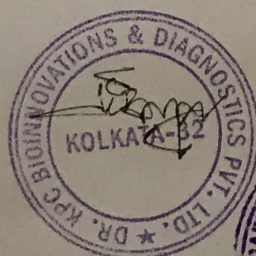
SEMESTER 4						
No.	Type	Course Code	Course Title	L-T- P	Contacthrs/wk	Credits
1	Theory PC	FTH11008	Food Microbiology and Preservations	3-0-0	3	3
2	Theory PC	FTH11009	Food Process Technology- I (Cereals, Fruits, Vegetables & Beverages)	3-0-0	3	3
3	Theory PC	FTH11010	Computational Biology and Algorithm	3-0-0	3	3
4	Theory PC	FTH11011	Fundamentals of Chemical Engineering and Unit operation	3-0-0	3	3
5	Practical PC	FTH12012	Food Microbiology and Preservations Lab	0-0-3	3	2
6	Practical PC	FTH12013	Food Process Technology- I Lab	0-0-3	3	2
7	Practical PC	FTH12014	Computational Biology and Algorithm Lab	0-0-3	3	2
8	Practical PC	FTH12015	Unit operation Lab	0-0-3	3	2
9	Theory HSSM	Eco 11505	HSSM-IV (Economics for Engineers)	3-0-0	3	3
10	Theory ESC	PSG11021	Human Values and Professional Ethics	2-0-0	2	2
11	Practical PC	FTH14016	Capstone Project-IV	0-0-2	2	1
Total				14-0-17	31	26

HSSM: Humanities, Social Science & Management

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ESC: Engineering Science

Total Credits (Second Year): 46



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YEAR 3

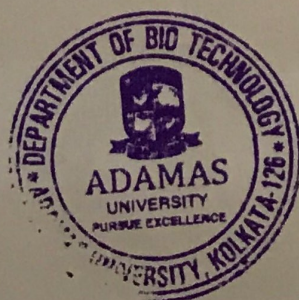
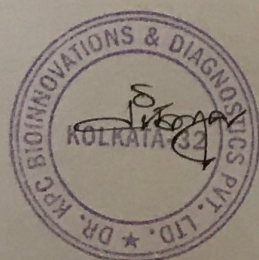
SEMESTER 5						
No.	Type	Course Code	Course Title	L-T-P	Contact hrs/wk	Credits
1	Theory PC	FTH11017	Food Process Technology-II (Fish, Meat & Poultry)	3-0-0	3	3
2	Theory PC	FTH11018	An Introduction to Enzymology	3-0-0	3	3
3	Theory PC	FTH11019	Economics for Food & Nutrition Policy	3-0-0	3	3
4	Theory PE	FTH11020/ FTH11021	Professional Elective-I	3-0-0	3	3
5	Theory PE	FTH11024/ FTH11025	Professional Elective-II	3-0-0	3	3
6	Practical PC	FTH12026	Enzymology Lab	0-0-3	3	2
7	Practical PC	FTH12027	Food Process Technology-II Lab	0-0-3	3	2
8	Practical PC	FTH12028	Economics for Food & Nutrition Policy Lab	0-0-3	3	2
9	Practical PE	FTH12022/ FTH12023	Professional Elective-I Lab	0-0-3	3	2
10	Practical PC	FTH14029	Capstone Project-V	0-0-2	2	1
Total				15-0-14	29	24

PC: Professional Core

PE I: Genomics, Proteomics & Metabolomics (FTH11020)/Fundamentals of Molecular Biology (FTH11021)

PE I Lab: Genomics, Proteomics & Metabolomics Lab (FTH12022)/ Molecular Biology Lab (FTH12023)

PE II: Nanobiotechnology (FTH11024)/ Energy Engineering & Biofuel (FTH11025)



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SEMESTER 6						
No.	Type	Course Code	Course Title	L-T-P	Contact hrs/wk	Credits
1	Theory PC	FTH11030	Process Calculations, Thermodynamics in Food Science	3-0-0	3	3
2	Theory PC	FTH11031	Food Process Technology- III (Dairy products, Fats & Oils)	3-0-0	3	3
3	Theory PC	FTH11032	Process Instrumentation and Control	3-0-0	3	3
4	Theory PE	FTH11037/ FTH11038	Professional Elective-III	3-0-0	3	3
5	Theory OE	FTH11039/ FTH11040	Open Elective-I	3-0-0	3	3
6	Practical PC	FTH12033	Process Equipment Drawing Lab	0-0-3	3	2
7	Practical PC	FTH12034	Food Process Technology- III Lab	0-0-3	3	2
8	Practical PC	FTH12035	Food Analysis and Quality Control Lab	0-0-3	3	2
9	Seminar PC	FTH15036	Technical Seminar	-	-	2
Total				15-0-9	24	23

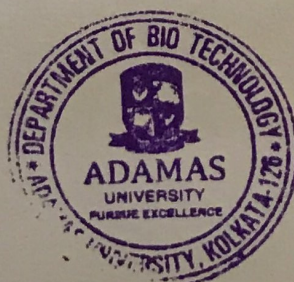
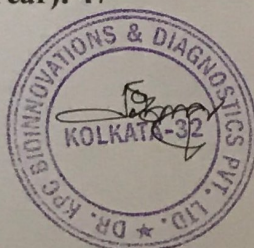
PE: Professional Elective

PC: Professional Core PE: Professional Elective OE: Open Elective

PE III: Bioanalytical tools(FTH11037)/ Food, Nutrition and Health (FTH11038)

OE 1: Advances in Microbial Biotechnology (FTH11039)/ Bakery, Confectionary and Extruded foods (FTH11040)

Total Credits (Third Year): 47



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YEAR 4

SEMESTER 7						
No.	Type	Course Code	Course Title	L-T-P	Contact hrs/wk	Credits
1	Theory HSSM	MGT11402	HSSM-V (Industrial Management)	3-0-0	3	3
2	Theory PE	FTH11041/ FTH11042	Professional Elective-IV	3-0-0	3	3
3	Theory PE	FTH11045/ FTH11046	Professional Elective-V	3-0-0	3	3
4	Theory OE	FTH11047/ FTH11048	Open Elective-II	3-0-0	3	3
5	Theory OE	FTH11049/ FTH11050	Open Elective-III	3-0-0	3	3
6	Theory OE	FTH11051/ FTH11052	Open Elective-IV	3-0-0	3	3
7	Practical PE	FTH12043/ FTH12044	Professional Elective-IV Lab	0-0-3	3	2
8	Practical PC	FTH14053	Minor Project	0-0-8	8	4
9	Practical PC	FTH14054	Industrial Training [#]	-	-	2
Total				18-0-11	29	26

HSSM: Humanities, Social Science & Management

PC: Professional Core PE: Professional Elective OE: Open Elective

PE 4: Principles of Human Nutrition (FTH11041)/ Quality Control & Food Safety (FTH11042)

PE 4 Lab: Nutritional Biochemistry Lab (FTH12043)/ Quality Control & Food Safety Lab (FTH12044)

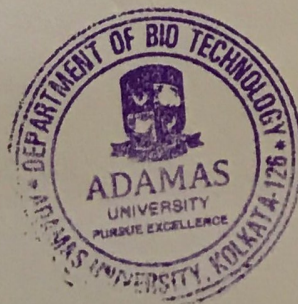
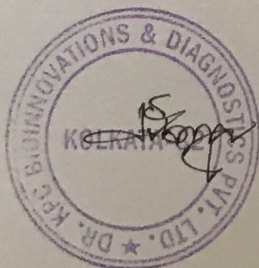
PE 5: Application of Genetic Engineering in Food Technology (FTH11045)/ Packaging of Food Products (FTH11046)

OE 2: Non-Thermal Food Processing Technologies (FTH11047)/ Separation and Purification Processes (FTH11048)

OE 3: Management of Food Industry Waste (FTH11049)/ Food Plant Sanitation (FTH11050)

OE 4: Bioethics, Biosafety & IPR (FTH11051)/ Research Methodology and GLP (FTH11052)

Industrial Training for 4-12 weeks will be taken at the end of 6th Semester, and will be evaluated in the 7th Semester



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YEAR 4

SEMESTER 8						
No.	Type	Course Code	Course Title	L-T-P	Contact hrs/wk	Credits
1	Practical PC	FTH14055	Major Project	0-0-20	20	10
2	Practical PC	FTH15056	Comprehensive Viva- Voce	-	-	2
Total				0-0-20	20	12

PC: Professional Core

Total Credits (Fourth Year): 38



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