

## P D Patel Institute of Applied Sciences (2017-2018) =

### Curriculum feedback analysis and action taken report

Sr. No.	Stakeholder	Feedback	Action Taken
1	Industry experts	Students should be aware on current industrial technologies and updates	Various subjects are already included in Syllabus to make students aware about Industrial technologies and study tour at Savli Biotech Incubator was also arranged (Teaching scheme highlighting industrial technology oriented subjects and report of industrial tour is attached – Annexure 1)
2	Employers	Students need to be trained for basic etiquettes for personal interview and profession relations. Quality of fundamental concepts need to be improved	Subjects like academic speaking were included and Guidance provided through special classes on T & P and students were encouraged to use online platform like NPTEL to improve basics (Teaching scheme and certificates of NPTEL attached- Annexure 2)
3	Academic Peers	Technical paper writing guidance required	Guidance provided on technical paper writing during dissertation. ( Copy of one paper is attached – Annexure 3).
4	CHARUSAT teachers	Vacation internship must be encouraged among students	Encouraged students to take internship in different industries (List attached- Annexure 4)
5	Alumni	Industry oriented experiments should be included in curriculum	Innovation knowledge sharing with students. (List of Practicals attached –Annexure 5)
6	Parents	Improvement required in communication skill and personality development	Special sessions were provided or communication skill by humanities department (Annexure 2)
7	Present students	Library should be enriched with reference books	New reference books were purchased for library ( List of books purchased attached Annexure 6)

*Ramesh*



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*[Signature]*  
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CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY  
CHARUSAT CAMPUS, CHANGA

Annexure 1

CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

Date : 02/10/2017

P. D. PATEL INSTITUTE OF APPLIED SCIENCES  
MASTER OF SCIENCE

Syllabus Details

Effective Year 2017-18

Degree : M.Sc. (MI)  
Total Subjects : 5  
Total Regular Subjects : 3  
Total Elective Subjects : 2

Semester : 4

Group Name : Regular

Course Code	Course Title	Teaching Scheme					Examination Scheme						
		CREDIT				TOTAL HOUR	TH		PR		PRJ		TOTAL
		TH	PR	PRJ	TOTAL		Internal	External	Internal	External	Internal	External	
MS851	RESEARCH METHODOLOGY	3.00			3.00	3.00	0/30	28/70	-	-	-	-	100
MI851	DISSERTATION PROJECT		12.00		12.00	20.00	-	-	0/100	100/250	-	-	350
MS852	RESEARCH PROJECT PROPOSAL		4.00		4.00	0.00	-	-	-	0/50	-	-	50
					19.00	23.00							500

Group Name : Elective-III

Course Code	Course Title	Teaching Scheme					Examination Scheme						
		CREDIT				TOTAL HOUR	TH		PR		PRJ		TOTAL
		TH	PR	PRJ	TOTAL		Internal	External	Internal	External	Internal	External	
MI852	QUALITY CONTROL AND ASSURANCE	3.00			3.00	3.00	0/30	28/70	-	-	-	-	100
MI853	INDUSTRIAL WASTE TREATMENT	3.00			3.00	3.00	0/30	28/70	-	-	-	-	100
MI854	MICROBIOLOGY BASED ENTREPRENEURSHIP	3.00			3.00	3.00	0/30	28/70	-	-	-	-	100

Total Credit for Regular Subjects : 19.00

Total Credit for Elective Subjects : 6.00

Total Credit : 25.00

Examination Grade Range & Value

Grade	Grade Points	From Marks	To Marks
AA	10.00	80	100
AB	9.00	75	79
BB	8.00	70	74
BC	7.00	65	69
CC	6.00	60	64
CD	5.00	55	59
DD	4.00	50	54
FF	0.00	0	49

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Page 1 of 1

**Report****B Sc Semester-V Industrial Tour**25<sup>th</sup> October, 2018

Presented by: Dr Aditi Buch  
Coordinator (T.Y BSc)  
PDPIAS, CHARUSAT

<b>Date:</b>	25 <sup>th</sup> October, 2018 (Thursday)	
<b>Venue:</b>	Agriland Biotech Limited, 36, Prince Industrial Estate, Mota Moti Pura, Kareli Baug, Vadodara, Gujarat 390018	
<b>Motive of Visit:</b>	To expose students to the on-field application and magnitude of various bioprocesses that they learn in theory	
<b>Relation with curriculum</b>	BE509 Industrial Tour (as per teaching scheme)	
<b>Members participating</b>	<b>Students</b>	110 B Sc Semester V Students (as per list attached)
	<b>Teaching Staff</b>	Dr Aditi Buch Dr Bragadish Iyer Dr Gayatri Dave Dr Bhavtosh Kikani Dr Murali Sharaff
	<b>Non-teaching staff</b>	Mr Ghanshyambhai Patel
<b>Nature of Activities Undertaken</b>		
<p>1. Tour commenced at 9:30 a.m from CHARUSAT campus. Dr Gayatri Dave and Dr Bhavtosh Kikani coordinated the assembly and boarding of 98 students from the campus. Two buses were deputed by CHARUSAT for the tour. Dr Aditi Buch and Dr Bragadish Iyer along with 12 other students joined from Baroda.</p> <p>2. The visit was scheduled at 11:30 at Agriland Biotech Limited. Faculties met the industry heads and representatives for exchange of pleasantries and for discussing further scope of association at various levels. Meanwhile the industry hosts extended kind hospitality by arranging snacks for the visiting students. Subsequently students and faculties were divided into two groups. One group was given a talk about the industry set-up, products and their scopes while the other group was made to visit the fermentation plant and packaging unit; and then the groups were rotated. Extremely detailed, patient demonstration and explanation at every stage enabled students to understand the industrial scale production of several microbial products in a satisfactory way. The demonstration ended at 2:30 p.m. which was followed by a group photograph at the venue.</p> <p>3. Subsequently, we headed to the highway Hotel Way Wait where lunch for the visitors was pre-booked. The tour culminated post lunch at 3:30 p.m. followed by immediate return journey. Students reached CHARUSAT campus at 6:00 p.m in the evening and their safe reach to their destinations was ensured by accompanying faculties through constant follow-ups.</p> <p>4. Tour was coordinated overall by Dr Aditi Buch while Dr Bragadish Iyer had coordinated the communications with the Industry partners. Dr Gayatri Dave, Dr Bhavtosh Kikani, Dr Murali Sharaff and two student representatives coordinated the related logistics throughout the tour.</p>		

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**Glimpses**



Feedback	Students found the industrial tour worth an experience. The purpose of the industrial visit was met satisfactorily.
Output	<p>Personal interactions with representatives of Agriland Biotech Pvt. Ltd. followed by their interaction with the students generated a significant goodwill, based on which they have expressed their willingness to train our selected students as well as have projected a scope to aid placement for our deserving students.</p> <p>The visit was fruitful in the sense that, it strengthened our alumni interactions. Mr Mirag Mangukiya, ex-student of PDPIAS (MSc Microbiology) is associated with this company and he played an instrumental role in arranging the tour. He as well as the superior authorities of the company also have agreed in principle to visit the institute to share their experiences with the ongoing batch of students.</p>
Remarks	Organization of the tour was undertaken after due approvals from the University.

*A. D. B. S.*  
*(P.Y. Bsc Coordinator)*

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**Statement of expenditure**  
B Sc Semester-V Industrial Tour  
25<sup>th</sup> October, 2018 (Thursday)  
Agriland Biotech Limited, 36, Prince Industrial Estate, Mota Moti Pura, Kareli Baug, Vadodara,  
Gujarat 390018

Sr No	Item	Expense incurred (Rs)	Remark
A	<b>Expenses from advance amount</b>		
1	Lunch arrangements (120 px)	12,523.00	Bill attached
2	Toll tax (for 2 buses)	1130.00	Receipts attached
3	Miscellaneous	320	
	<b>Total expenditure</b>	<b>13,973.00</b>	
	<b>Advance amount taken</b>	<b>19,000.00</b>	
	<b>Balance amount to be refunded</b>	<b>5027.00</b>	
B	Travel expenses (2 buses as deputed by CHARUSAT)	As per CHARUSAT norms.	

*A. W. B. S. M. S.*  
*(T. U. B. Sc coordinator)*

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**Statement of expenditure**  
**B Sc Semester-V Industrial Tour**  
**09<sup>th</sup> November, 2017**  
**Bills Biotech Pvt Ltd, Savli Biotech Park and Savli Biotech Incubator**

Sr No	Item	Expense incurred (Rs)	Remark
<b>A</b>	<b>Expenses from advance amount</b>		
1	Lunch arrangements (110 px)	8,800.00	Bill attached
2	Token amount donated to Shri Bhimnath Mahadev Seva Samaj, Savli, on behalf of CHARUSAT	500.00	Expression of gratitude towards access to temple premise for lunch arrangements, receipt attached
3	Arrangement for evening refreshments for students and staff	2545.00	Bill not available since purchased from small highway joints
4	Toll tax (for 2 buses)	1020.00	Receipts attached
	<b>Total expenditure</b>	<b>12,865.00</b>	
	<b>Advance amount taken</b>	<b>18,000.00</b>	
	<b>Balance amount to be refunded</b>	<b>5135.00</b>	
<b>B</b>	<b>Travel expenses (2 buses hired from Brahmani Travels)</b>	<b>16,000.00</b>	<b>Bill already processed for payment by Mr Rakesh Dave</b>
	<b>Overall expenditure of the Tour (A+B)</b>	<b>28,865.00</b>	

*Arbuz*  
*(C.Y. BSc coordinator)*

**Certified By:**

*Dr*

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Annexure 2

CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY  
P. D. PATEL INSTITUTE OF APPLIED SCIENCES

Date : 09/07/2021

MASTER OF SCIENCE

Syllabus Details

Effective Year 2019-20

Program	: M.Sc. (BC)	Semester	: 1
Total Subjects	: 9		
Total Regular Subjects	: 6		
Total Elective Subjects	: 3		

Group Name : HSS-BC-I

Course Code	Course Title	Teaching Scheme					Examination Scheme						
		CREDIT				TOTAL HOURS	TH		PR		PRJ		TOTAL
		TH	PR	PRJ	TOTAL		Internal	External	Internal	External	Internal	External	
HS703.01 E	LANGUAGES (FRENCH)		2.00		2.00	2.00	-	-	0/30	28/70	-	-	100
HS704 E	ACADEMIC SPEAKING		2.00		2.00	2.00	-	-	0/30	28/70	-	-	100

Total Credit for Regular Subjects : 22.00

Total Credit for Elective Subjects : 4.00

Total Credit : 26.00

Examination Grade Range & Value

Grade	Grade Points	From Marks	To Marks
AA	10.00	80	100
AB	9.00	75	79
AB	8.00	70	74
BC	7.00	65	69
CC	6.00	60	64
CD	5.00	55	59
DD	4.00	50	54
FF	0.00	0	49

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Certified By:

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Elite

# NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to  
**ISHA RAJUBHAI PATEL**  
for successfully completing the course

**Wildlife Ecology**

with a consolidated score of **91** %

Online Assignments	19.06/25	Proctored Exam	72/75
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Prof. Rajash M. Hegde  
Chairman, Centre for Continuing Education  
IIT Kanpur

Total number of candidates certified in this course: 543

Sep-Dec 2020  
(12 week course)

Prof. Satyaki Roy  
NPTEL Coordinator  
IIT Kanpur



Indian Institute of Technology Kanpur



Roll No: NPTEL20BT38S82350057

To validate and check scores: <https://nptel.ac.in/noc>

Certified By:

REGISTRAR

CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY  
CHARUSAT CAMPUS, CHANGA



This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, <https://nptel.ac.in/noc/>

Roll No: NPTEL20BT32S51090021

To  
VOHRA AQSA G  
M-6, FAZAL APPT.  
MUGLISARA MAIN ROAD, SURAT.  
SURAT  
GUJARAT - 395003  
PH. NO :6356004616



Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:3

An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



Elite

# NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

**VOHRA AQSA G**

for successfully completing the course




## Genetic Engineering: Theory and Application

with a consolidated score of **78** %

Online Assignments	22.69/25	Proctored Exam	55.5/75
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Total number of candidates certified in this course: 342

Sep-Dec 2020  
(12 week course)

  
Prof. Hemant B Kaushik  
Head, Centre for Educational Technology  
& NPTEL Coordinator  
IIT Guwahati



Indian Institute of Technology Guwahati



Roll No: NPTEL20BT32S51090021

To check scores: <https://nptel.ac.in/noc/>

REGISTRAR  
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY  
CHARUSAT CAMPUS, CHANGA

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, <https://nptel.ac.in/noc/>

Roll No: NPTEL20BT29S62470027

To  
AMATULLA SADABAR  
OPP. TO JAIN NASHIYA, SILVER AUTO PARTS  
. 4TH FLOOR, STATION ROAD  
STATION ROAD, DAHOD  
DAHOD  
GUJARAT - 389151  
PH. NO :6354967353

Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate



No. of credits recommended by NPTEL:1

An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



Elite

# NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to  
**AMATULLA SADABAR**  
for successfully completing the course

## Biomedical Nanotechnology

with a consolidated score of **62 %**

Online Assignments	22.50/25	Proctored Exam	39.75/75
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Total number of candidates certified in this course: 733

Prof. V. C. Srivastava  
Coordinator, Continuing Education Centre  
IIT Roorkee

Sep-Oct 2020  
(4 week course)

Prof. Inderdeep Singh  
NPTEL Coordinator  
IIT Roorkee



Indian Institute of Technology Roorkee



Roll No: NPTEL20BT29S62470027

To validate and check scores: <https://nptel.ac.in/noc>

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## Electroactive bacterial community augmentation enhances the performance of a pilot scale constructed wetland microbial fuel cell for treatment of textile dye wastewater

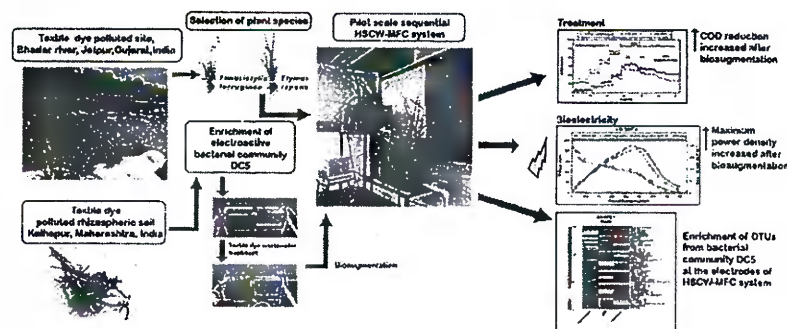
Dishant Patel, Sweta L. Bapodra, Datta Madamwar, Chirayu Desai\*

P. D. Patel Institute of Applied Sciences, Charotar University of Science and Technology, CHARUSAT Campus, Changa 388 421, Anand, Gujarat, India

### HIGHLIGHTS

- Electroactive and textile dye wastewater degrading bacterial community was developed.
- A pilot scale CW-MFC system was engineered for treatment of textile dye wastewater.
- Performance of CW-MFC system increased after bioaugmentation of community DC5.
- Microbial community dynamics was observed at different influent COD of dye wastewater.
- The genus *Exiguobacterium* was abundant at the anodes of DC5 augmented CW-MFC system.

### GRAPHICAL ABSTRACT



### ARTICLE INFO

#### Keywords:

Textile dye wastewater  
Electroactive bacterial community  
Bioaugmentation  
*Exiguobacterium*  
*Desulfovibrio*

### ABSTRACT

This study evaluated the effect of bioaugmentation of a newly enriched electroactive bacterial community DC5 on the performance of a pilot scale sequential two-step Horizontal Sub-surface flow Constructed Wetland-Microbial Fuel Cell (HSCW-MFC) system treating textile dye wastewater. The system consisted of CW-MFC-1 planted with *Fimbristylis ferruginea* and CW-MFC-2 planted with consortium of *Fimbristylis ferruginea* and *Elymus repens* plant species. Before bioaugmentation, HSCW-MFC system showed  $62 \pm 2\%$  Chemical Oxygen Demand (COD) and  $90 \pm 1.5\%$  American Dye Manufacturer's Institute (ADMI) removal and  $177.3 \text{ mW/m}^2$  maximum power density (CW-MFC-1). After bioaugmentation of DC5 into the HSCW-MFC, COD and ADMI removal was enhanced to  $74.10 \pm 1.75\%$  and  $97.32 \pm 1.90\%$  with maximum power density of  $197.94 \text{ mW/m}^2$  (CW-MFC-1). The genera *Exiguobacterium*, *Desulfovibrio* and *Macellibacteroides* of DC5 were significantly enriched at the electrodes of HSCW-MFC after bioaugmentation. These results demonstrate that the performance of the CW-MFC treating textile dye wastewater can be improved by bioaugmentation of electroactive bacterial community.

\* Corresponding author.

E-mail address: [chirayudesai.bs@charusat.ac.in](mailto:chirayudesai.bs@charusat.ac.in) (C. Desai).

<https://doi.org/10.1016/j.biortech.2021.125088>

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Available online 1 April 2021

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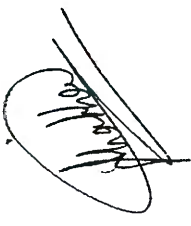
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Summer Training BSC Semester IV

Annexure 4

2018 Training

Sr. No./Roll number	Student name	Branch	Semester	Place of training	Duration and dates, Year	Certificate copy submitted	Report copy submitted	Pratition/Fellowship
1	ISHA M PATEL	MICROBIOLOGY	IV	DUDHDHARA DAIRY	1ST JUNE 2018 TO 15TH JUNE 2018	YES	YES	
2	KRISHNA K PATEL	BIOTECHNOLOGY	IV	ASOU SOFT CAPS PVT.LTD.	21ST MAY 2018 TO 06TH JUNE 2018	YES	YES	
3	RUCHI ATODARIYA	BIOTECHNOLOGY	IV	INTAS PHARMACEUTICALS LIMITED	7TH JUNE 2018 TO 21ST JUNE 2018	YES		
4	JOLLY V UPADHYAY	BIOTECHNOLOGY	IV	KAIRA DISTRICT CO-OPERATIVE MILK	7TH JUNE 2018 TO 21ST JUNE 2018	YES		
5	DHRUVA TRIVEDI	BIOTECHNOLOGY	IV	THE GUJARAT CANCER & RESEARCH	1ST JUNE 2018 TO 15TH JUNE 2018	YES		
6	DEVANGI PATEL	BIOTECHNOLOGY	IV	KAIRA DISTRICT CO-OPERATIVE MILK	15 DAYS	YES		
7	ARTH PARIKH	BIOTECHNOLOGY	IV	M.S UNIVERSITY AMI PROCURE, SURAT	2ND JUNE 2018 TO 29TH JUNE 2018			
8	JINAL KAPDIYA	BIOTECHNOLOGY	IV	ARIHANT CHEMICAL INDUSTRIES, ANKLESHWAR	15 DAYS	YES	YES	
9	DRASHTI D PATEL	MICROBIOLOGY	IV	GNFC	1ST JUNE 2018 TO 15TH JUNE 2018	YES	YES	



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Annexure 5

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a

MSc Sem III

BIOTECHNOLOGY	
BT822 Industrial Biotechnology	
1	Autoclave validation
2	Validation of product
3	Biofertilizer preparation
4	Effectiveness of various chemicals in cleaning lab bench
5	Monitoring the Effectiveness of LAFU
6	Effectiveness of various chemicals in cleaning hands
7	Microbial pigment production
8	Effect of Fumigation
9	Citric acid production /Antibiotic production
10	Study of probiotic organisms

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(1) / 5

B.Sc III

	<b>BT 301 Enzyme Technology</b>
	<b>Enzyme activity</b>
43	Measure of enzyme activity
44	Effect of substrate concentration
45	Effect of pH
46	Effect of temperature
47	Enzyme activity using commercially available enzymes (products)
48	Enzyme immobilization-Alginate beads

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PDP IAS Library Books purchased.  
Annexure 6

2018-19					
Bill no	Dep	Date	Qty	Cost	Acc No
1	Bio	4/5/2018	26	12360	3200-3225
5	AOC	4/12/2018	6	2250	3226-3231
13325	MATH	4/16/2018	10	7440	3232-3241
Project		24-4-018	8	0	3242-3249
40	Phy	14-6-018	2	2990	3250-3251
49	Bio	26-6-018	52	140683.1	3252-3304
50	Bio	26-6-018	12	5390	3305-3316
53	MATH	26-6-018	18	13950	3317-3334
57120	MATH	25-6-018	26	15864	3335-3360
55	Bio	3-7-018	10	34562.61	3361-3370
59	Bio	9-7-018	10	25225	3371-3380
64	MATH	10-7-018	10	3120	3381-3390
65	Bio	11-7-018	8	24060	3391-3398
68	MATH	13-7-018	11	3250	3399-3409
70	Bio	14-7-018	20	27900	3410-3429
13653	MATH	30-7-018	2	5787.35	3430-3431
153	Bio	11-8-018	20	9500	3432-3451
156	MATH	11-8-018	8	6662	3452-3459
155	Bio	11-8-018	9	8001	3460-3468
179	MATH	8/31/2018	15	5125	3469-3483
180	Bio	8/31/2018	7	2765	3484-3490
181	Phy	8/31/2018	33	10835	3491-3523
13780	Project	11-9-018	3	0	3524-3526
13688	Project	13-8-018	1	0	3527
321	Phy	9/24/2018	20	10550	3528-3547
322	MATH	9/24/2018	15	10495	3548-3562
323	Bio	9/24/2018	22	5870	3563-3584
SPECIAL COLLECTION		2/3/2018	6	0	3585-3590
	Project		1	0	3591
341	Bio	16-10-018	5	2775	3592-3596
342	MATH	16-10-018	6	3582	3597-3602
351	Bio	27-10-018	20	19980	3603-3622
352	Phy	27-10-018	15	11625	3623-3637
355	Bio	10/31/2018	10	5250	3638-3647
356	MATH	10/31/2018	5	1500	3648-3652
10497	Bio	07-01-019	27	113938.66	3653-3679
10498	Bio	07-01-019	14	105507.22	3680-3693
57659	Bio	16-01-019	20	59500	3694-3713
729	Bio	28-12-019	10	38200	3714-3723
947	Bio	04-02-019	5	9519	3724-3728
57747	Bio	05-02-019	5	6475	3729-3733
482	Bio	06-02-019	5	2375	3734-3738
10661	Project	08-02-019	2	0	3439-3740
499	Bio	14-02-019	5	4625	3741-3745
970	Bio	20-02-019	21	19724	3746-3766

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10822	Project	13-03-019	3	0	3767-3769
			569	799210.94	

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