

1.4.1	Structured feedback for design and review of syllabus – semester- wise / year-wise is received from	10
Q_nM	1) Students, 2) Teachers, 3) Employers and 4) Alumni Options: A. All 4 of the above B. Any 3 of the above C. Any 2 of the above D. Any 1 of the above E. None of the above Data Requirements: (As per Data Template) Report of analysis of feedback received from different stakeholders year-wise File Description <ul style="list-style-type: none"> • URL for stakeholder feedback report • Action taken report of the University on the feedback as stated in the minutes of the Governing Council, Syndicate, Board of Management (Upload) • Any additional information (Upload) 	

DVV requirement

Documents Needed

- ☐ Filled in sample feedback forms from the stakeholders are to be provided.

Specific instruction to HEI

The feedback concerned with curriculum development only can be considered.

Only filled –in feedback report will be considered.

In case of selecting A, B, C or D provide three filled forms from each category

The DVV partner may ask for filled in forms of randomly selected stakeholders.

Avoid the following while uploading data

Feedback not related to the design and review of syllabus will not be considered.

TEXT

- A. Feedback on the existing programmes and courses.

Feedback is collected through structured questionnaire from 1) Students, 2) Teachers, 3) Employers and 4) Alumni for design and review of syllabus of courses and programmes.

Capturing students' feedback is a regular and customary practice at TERI SAS which is undertaken both at mid-term and at the end of each semester for *every* course. The templates have changed over the years (Annexure 2.6.2.A-D includes the earlier and present templates, for both feedback). Students' responses on effectiveness of teaching method/s adopted and extent of meeting learning outcomes are analyzed subsequently (see below).

For the Annual feedback processes a committee was set up by the then Dean Academic on 27.02.2020 (Annexure 1.4.1.A contains the ToR). The committee submitted the forms on 03.03.2020 (Annexure 1.4.1.B) and then carried out the survey with the pilot questionnaires, before submitting the report on 11.06.2020 (notwithstanding the difficulties posed by the pandemic; Annexure 1.4.1.C). It has become an annual exercise now. Some examples of the processes, analysis of information collected and actions taken can be located against the links.

	Feedback processes	Action taken against feedback
Department of Policy Studies	Link	Link
Department of Natural Resources	Link	Link
Department of Energy and Environment	Link	Link

- B. Feedback on the review of existing programme structure

TERI SAS has an established process of seeking, collecting, analyzing feedback from a variety of stakeholders in period review of syllabus of courses and structure of programmes.

Annexure 1.4.1.D	Review of MSc in Climate Science and Policy programme [reported in 41 st AC meeting minutes (link) on 13.11.2017 (item no 11, p. 6)]
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Annexure 1.4.1.E	Review of MSc in Geoinformatic programme (report in Annexure 1.4.1.E) [reported in 41 st AC meeting minutes (link) on 16.07.2020 (item no 20, p. 11)]
Annexure 1.4.1.F	review of MSc Economics programme [reported in 41 st AC meeting minutes (link) on 13.11.2017 (item no 6, p. 4), 49 th AC meeting minutes (link) on 17.08.2021 (item no 12, p. 11)]
Annexure 1.4.1.G	Review of M.Tech (Renewable Energy Engineering and Management) [reported in 40 th AC meeting minutes (link) on 05.07.2017 (item no. 7a, p. 4)].

C. Feedback on the review of programmes before introduction

Before starting a programme, extensive consultations are held through offline workshop and online surveys. Feedback is collected across stakeholders for period review of programmes. Documented evidence of such consultations is included below.

Programme name	Date of consultations	Links
LL.M. programme	09.10.2015	link to a report on the consultation
MSc (Biotechnology)	03.06.2019-17.08.2021	Link to DBT BoS Minutes of meeting on 03.06.2019 Link to 48 th AC Minutes of meeting on 16.07.2020 (item no 23, p. 12 and enclosure 18; p. 149) Link to 49 th AC Minutes of meeting on 17.08.2021 (item no 11, p. 10 and enclosure 7, p. 232)

Reports of some other feedback has been enclosed as [Annexure 1.4.1.H](#) and [Annexure 1.4.1.I](#).


1.4.1.A.**Annual Feedback Process**

Atul Kumar <atul.kumar@terisas.ac.in>

Thu 27-02-2020 12:56

To: Sukanya Das <sukanya.das@terisas.ac.in>; Fawzia Tarannum <fawzia.tarannum1@terisas.ac.in>; Anu Rani Sharma <anu.sharma@terisas.ac.in>

Cc: IQAC <iqac@terisas.ac.in>; Pradeep Padhy <pradeep.padhy@terisas.ac.in>

 2 attachments (79 KB)

Feedback Forms 2017-18_SBP.pdf; 1.4 Feedback system.docx;

Dear All

As you all are aware of we are applying for reassessment of NAAC evaluation by July 2020. The feedback system has significant weightage (20 marks) to the total score. The feedback process against metric 1.4.1 is to be instituted. This feedback is to be collected annually like we do for students.

I am proposing formation of a team comprising of following colleagues:

Dr. Sukanya Das (Convenor)

Dr. Anu Rani Sharma

Dr. Fawzia Tarannum

Team shall specifically work on following matters

1. To prepare the template for questions to solicit regular (preferably, annual) feedback from teachers/peers, alumni and employers for the purposes of meeting the requirements of metric 1.4 of SSR or NAAC.
2. To circulate the same to all Programme Coordinators, and get it approved by the respective MPEC, with minor modification, if any, before 3 below.
3. To shepherd the process of collection of feedback for all programmes.
4. To submit a report to Dean (Academic) on the process (documentation) and analysis of feedback.
5. To advise the Dean (Academic) on the processes to make this collection of feedback as an Annual event and display of results on the website.

In addition you may suggest any other best practice being followed elsewhere.

The PDF file attached with this email may be considered as a template on which you can work on. Another word document will give you the contours of metric in NAAC SSR.

Since we have very tight deadline I am proposing the following time lines against is above mentioned item (no is indicated)

- Item no 1. By 5/3/2020
- Item no 2: by 9/3/2020
- Item no 3: by 19/3/2020
- Item no 4: 26/3/2020
- Item no 5: 31/3/2020

1.4.1.3

For any further clarification you may connect with Dr Nandan Nawn

With kind regards

Atul

[illegible]

Atul Kumar, Ph.D.

Dean (Academic) &

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1.4.1.B.

TERI SCHOOL OF ADVANCED STUDIES

FEEDBACK FORM FOR ALUMNI

Please rate the program of TERI School of Advanced Studies on a scale of 1 to 5 for the given skills. Mark 6 only if the given skill does not apply to you

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Inability to Judge/Not Applicable
S.No	Skills	1	2	3	4	5	6
1	The program inculcated employability skills in me						
2	The program played an important role in my personal growth and confidence building						
3	The program instilled problem solving and decision-making skills in me						
4	The program improved my communication and team working skills						
5	The program improved my critical thinking ability						
6	The program provided me adequate theoretical knowledge and hands on skills in the field of specialization						
7	The nomenclature of the program is unique, and it gave me first mover advantage						
8	The program gave me exposure to IT skills						
9	The program enabled me to develop strong theoretical and analytical skills						
10	I would recommend the program to other prospective students						

Please suggest any courses/skills that you think may be included to make our programme Industry/Research relevant

Name of the organisation:			Signature
Name of the respondent:		E-Mail:	
Designation:		Phone:	

1.4.1.B.**TERI SCHOOL OF ADVANCED STUDIES****FEEDBACK FORM FOR EMPLOYERS**

Please rate the alumni/intern of TERI School of Advanced Studies presently working in your organisation on a scale of 1 to 5 for the given skills. Mark 6 only if the given skill does not apply to the employee due to the nature of work and thus restricts your ability to assess him/her.

S.No	Skills	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Inability to Judge/Not Applicable
		1	2	3	4	5	6
1	Technical skills and domain specific knowledge						
2	Teamwork and interpersonal skills						
3	Communication Skills (Oral and Written)						
4	Ability to think creatively, objectively and offer insights into solving problems.						
5	Proficiency in the use of technology (IT)						
6	Analytical skills						
7	Project Management skills						
8	Ability to handle pressure						
9	Time management						
10	Adherence to organisational rules and regulations						
11	Ability to empathize						
12	Gender sensitivity						
13	Alignment of the employee skills with the outcome of the programme attended at TERI SAS (Please click on the link to read the programme outcomes prior to answering this question)						

Please suggest any courses/skills that you think may be included to make our programme more relevant for your organization?

Name of the organisation: Signature

Name of the respondent: E-Mail:

Designation: Phone:

1.4.1.B.**TERI SCHOOL OF ADVANCED STUDIES****FEEDBACK FORM FOR FACULTY**

Please rate the program of TERI School of Advanced Studies on a scale of 1 to 5 for the given skills. Mark 6 only if the given skill does not apply to you

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Inability to Judge/Not Applicable
S.N o	Skills	1	2	3	4	5	6
1	The courses/syllabi taught by me have a good balance between theory and application						
2	Contents of the curriculum are as per the industry requirement						
3	The university has adequate infrastructure facilities to run the programs						
4	The university provides adequate opportunities and support to faculty members for upgrading their skills and qualification						
5	The books/journals etc. prescribed/listed as reference materials are relevant, updated and cover the entire syllabi						
6	The environment in the university is conducive to teaching and research						
7	The treatment of the students irrespective of the background of the student (gender, caste, community, creed, etc.) in teaching and evaluation is fair						
8	I have the freedom to adopt new techniques/strategies of testing and assessment of students						
9	The program in which I teach enhances knowledge and skill in the area of specialization						
10	The program instills values and professional ethics in the student						
11	The program makes the student industry/research ready						
12	Individual mentoring to the students is provided for holistic development						

Please suggest any courses/skills that you think may be included to make our programme Industry/Research relevant

Name of the Faculty: Signature

Name of the program:

E-Mail:

Designation:

Phone:

Annual feedback process collected Faculty_Employers_Alumni June 2020

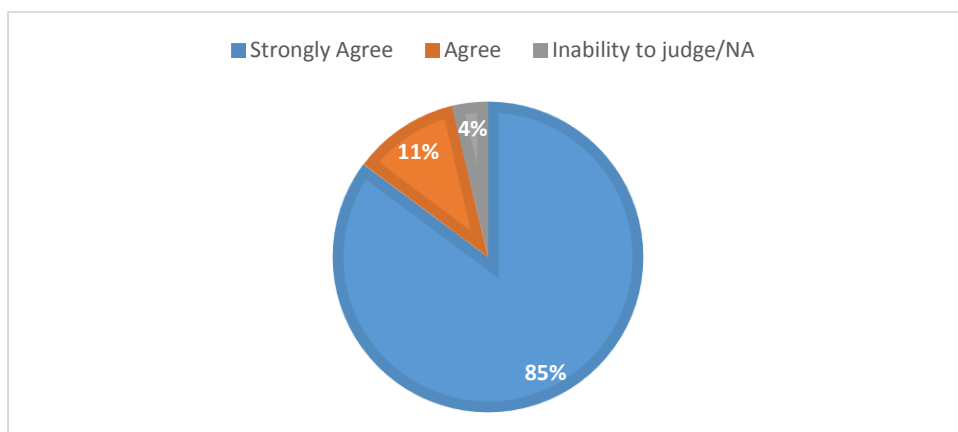
As a part of the annual exercise for the reassessment of NAAC evaluation, the feedback process against metric 1.4.1 has been instituted. The feedback has been collected from the faculty, alumni, and employers. The following steps have been initiated for the preparation of the report.

- 1) A team comprising of - Dr. Sukanya Das (Convenor), Dr. Anu Rani Sharma, and Dr. Fawzia Tarannum have been formed.
- 2) The Team worked on following matters-
 - a) Preparing the template for questions to solicit regular (preferably, annual) feedback from teachers/peers, alumni, and employers.
 - b) Circulated the same across all the Programme Coordinators, and get it approved by the respective MPEC, with minor modification, if any.
 - c) Conducted the process of collection of feedback for all programs over email via Google forms.
 - d) Documenting the feedback.

Feedback from the Faculty

The structured questionnaire was circulated in the first week of May 2020. 27 responses have been obtained across all the programs offered in the University. The faculties are requested to rate the program where they are engaged on a scale of 1 to 5¹ for the following skills stated below. They can mark 6 if the following skill is not applicable to them.

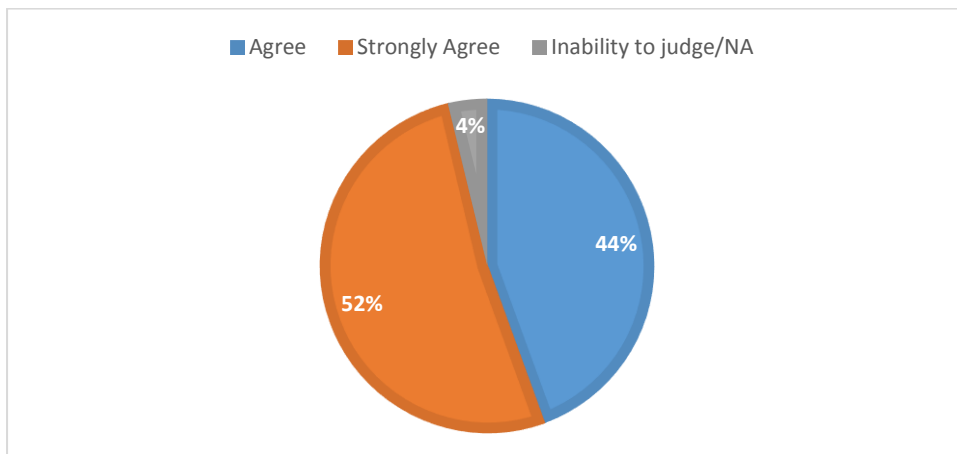
1. The courses/syllabi taught by me have a good balance between theory and Application



85% of faculties strongly agree, 11% of them agree while 4% of them are not able to judge.

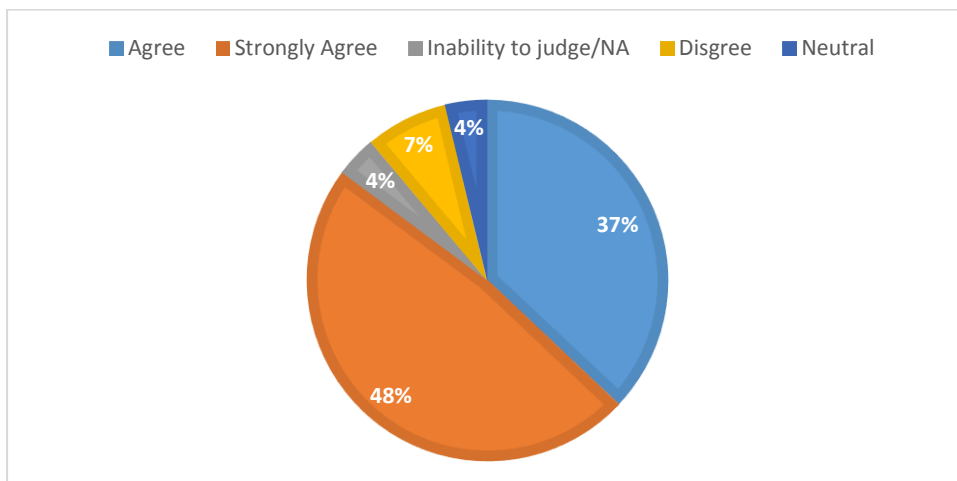
¹ 1=Strongly disagree, 2= Disagree, 3= Neutral, 4=Agree, 5=Strongly Agree, 6= Judge/Not Applicable

2. Contents of the curriculum are as per the industry requirement



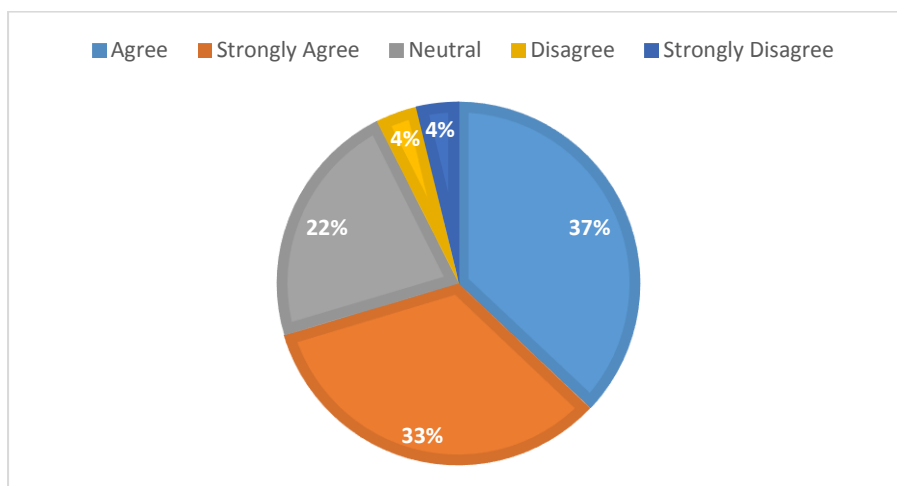
52% strongly agreed to the view, 44% agreed and 4% are not able to decide.

3. The university has adequate infrastructure facilities to run the programs



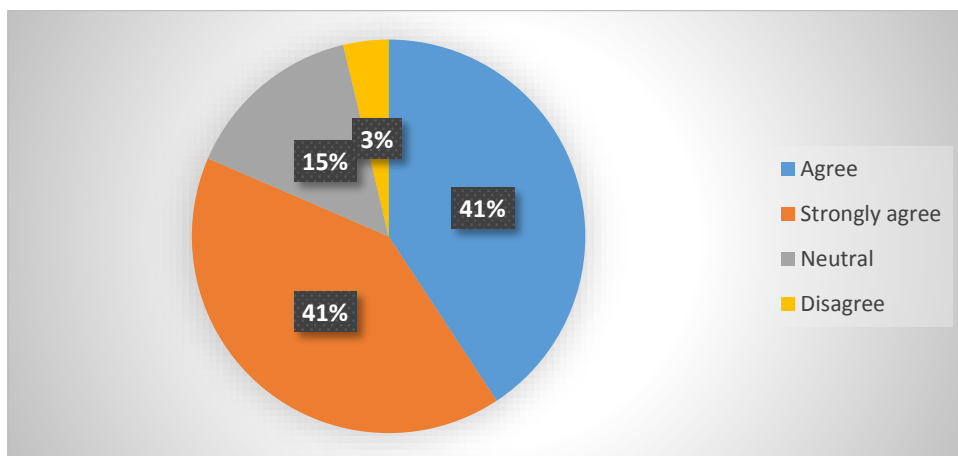
48% of the faculties strongly agreed, 37% agree, 7% disagree, 4% are neutral while 4% are not able to decide.

4. The university provides adequate opportunities and support to faculty members for upgrading their skills and qualification



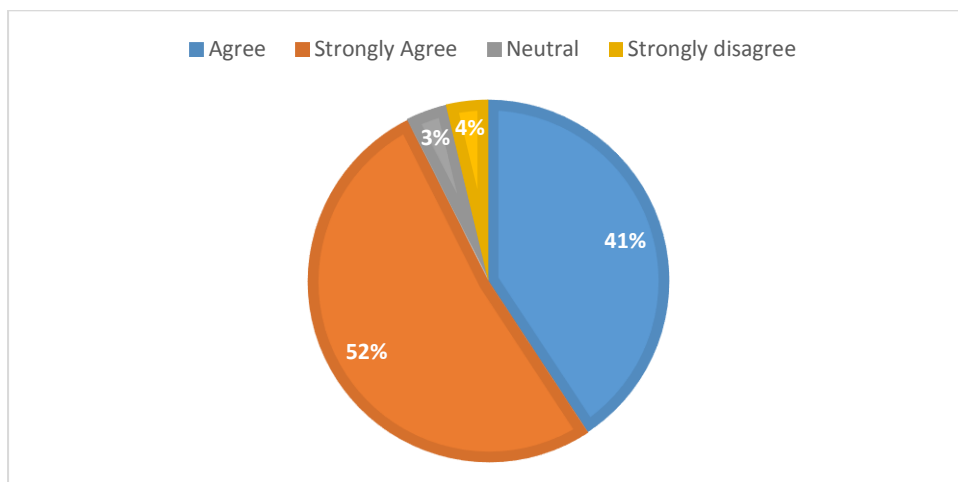
37% of the faculties agreed, 33% strongly agreed, while 22% are neutral in their response. 4% disagree and 4% strongly disagreed to the given viewpoint.

5. The books/journals etc. prescribed/listed as reference materials are relevant, updated and cover the entire syllabi



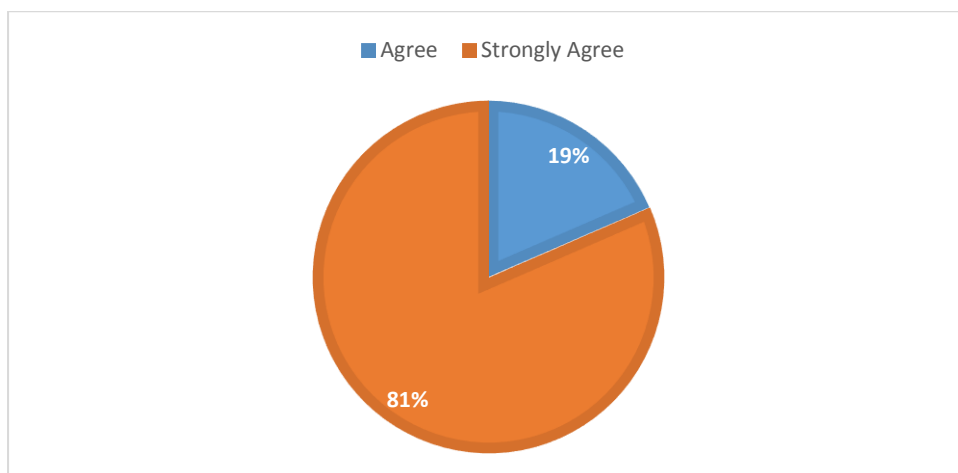
41% of faculties strongly agreed, 41% agreed, 15% are neutral while 3% disagreed with the opinion.

6. The environment in the university is conducive to teaching and research



52% of the faculties strongly agreed, 41% agreed, 4% strongly disagreed while 3% are neutral in their response.

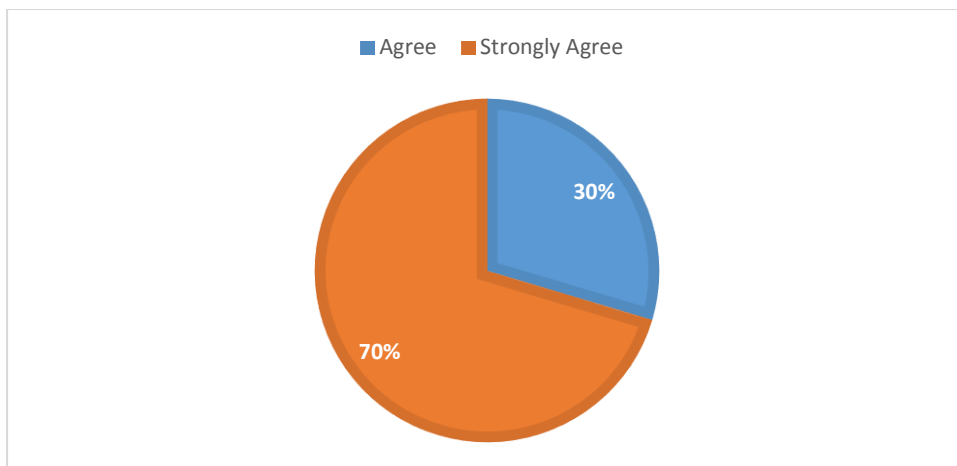
7. The treatment of the students irrespective of the background of the student (gender, caste, community, creed, etc.) in teaching and evaluation is fair



81 % of the faculties strongly agreed while 19% agreed with the opinion.

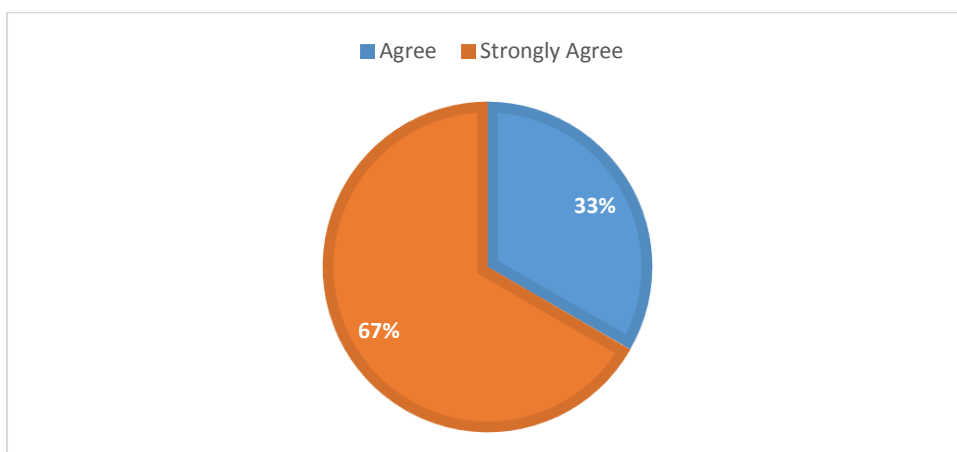
8. I have the freedom to adopt new techniques/strategies of testing and assessment of students

1.4.1.C.



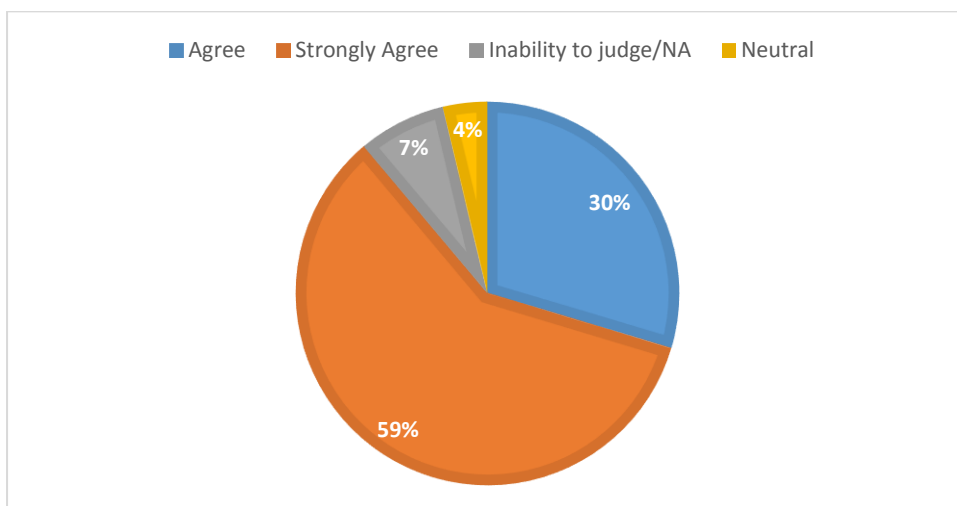
70% of the faculties strongly agreed and 30% of them agreed to it.

9. The program in which I teach enhances knowledge and skill in the area of specialization



67% of the faculties strongly agreed with the opinion and 33% of them simply agree to it.

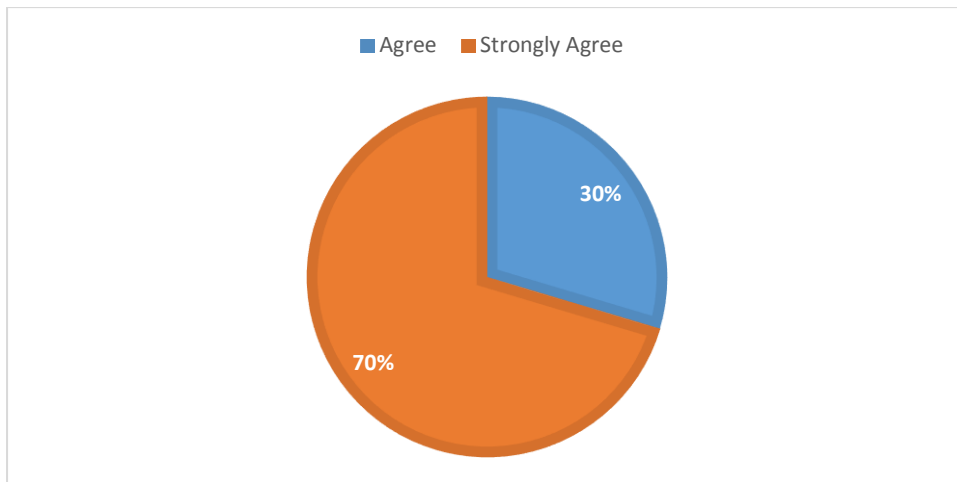
10. The program in stills values and professional ethics in the student



1.4.1.C.

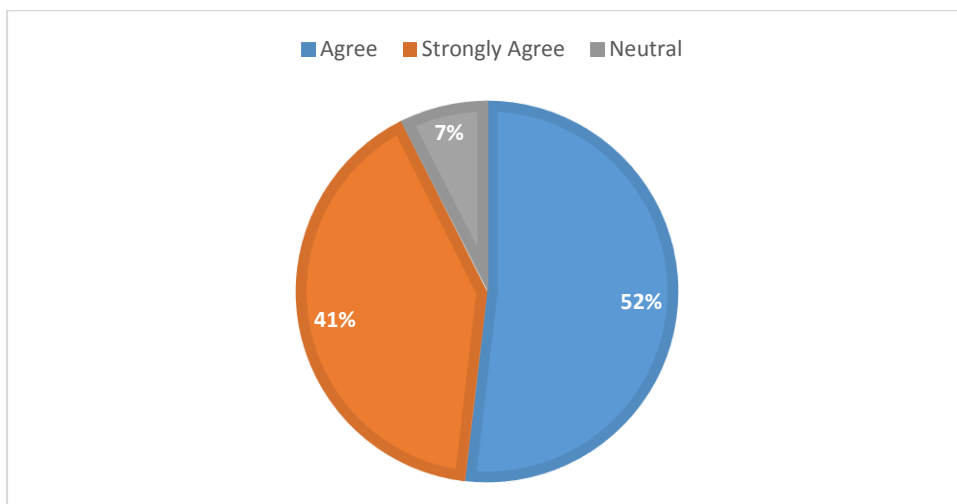
59% of faculties strongly agreed, 30% agreed, while 7% are not able to decide and 4% are neutral in their response.

11. The program makes the student industry/research ready



70% of the faculties strongly agreed and 30% of them just agree to the viewpoint.

12. Individual mentoring to the students is provided for holistic development



52% of the faculties agreed, 41% strongly agreed and 7% are neutral in their choice.

Comments and Suggestions across all the programs

Name of the program	Suggestions for any courses/skills that may be included to make the program Industry/Research relevant
M.Sc (Economics)	The answer can include a long list of optional papers on different sub-disciplines of economics. However, I think we are doing fine within the constraints of credits and faculty strength.
	Marketing Analytics should be introduced as a subject.
	Assign 2 credits to the summer internship and call it a minor project.
	Finance and Accounting, Industrial Organization, Regulation
M.Sc(Clim ate Science and Policy)	Tools related to the transition to low-carbon development discourse
	R-programming and GHG inventory tools.
M.Sc(Environmental Studies and Resource Management)	Advanced and Industry Readiness Workshops in the Domain of Application Tools, Software for Environmental Projects, Water, Environmental, and Energy Audits.
	Training on Data Analytics and Machine Learning should be initiated
M.Sc(Geoinformatics)	The revised curriculum of Geoinformatics already covers the required skills in the student.
	More Infrastructure and software
	Perhaps the latest technology like big data analytics could be useful for those students who are on the science and technology side. But the Geoinformatics program is well structured and has big data analytics components covered, so it is required for only the other two programs.
	Integration of clinical method for delivery in certain courses and the introduction of short term courses in upcoming areas of law.
LL.M.(Environment and Natural Resources Law / Infrastructure and Business Law)	
	Moot courts
M.Sc(Plant Biotechnology)	Long-term institutional internal funding for maintenance and upgrading of lab facilities and equipment.
	NA
	Needs more strengthening in the IT platform for software and hardware support.
	Biophysics and Systems Biology

1.4.1.C.

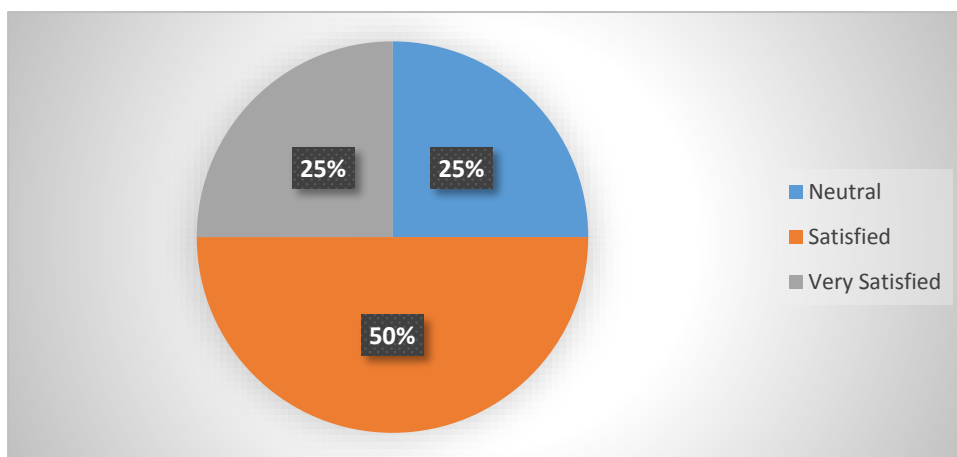
	Synthetic Biology, Biophysics
	Computer Programming, Big Data Analysis, Professional Ethics
M.Tech(Renewable Energy Engineering and Management)	Energy Storage and Electric Vehicle
	Computer scripting
	Case studies can help students
	A course like research methodology should be more practical oriented
	Presently, the program is already having plenty of diverse courses along with the elective courses offered by other programs and departments. However, a restructuring of the courses in terms of their emphasis, time allocation, and relevance could be perused and that is already under consideration.
M.A (Sustainable Development Practice)	
M.Tech(Urban Development Management)	

Feedback from Employers

The feedback from the employers was sought during the month of May 2020 who hire alumni and interns from the university. It was requested to rate the alumni/intern of TERI School of Advanced Studies who is presently working in their organization on a scale of 1 to 5. They can mark 6 only if the given skill does not apply to the employee due to the nature of work and thus restricts their ability to assess.²

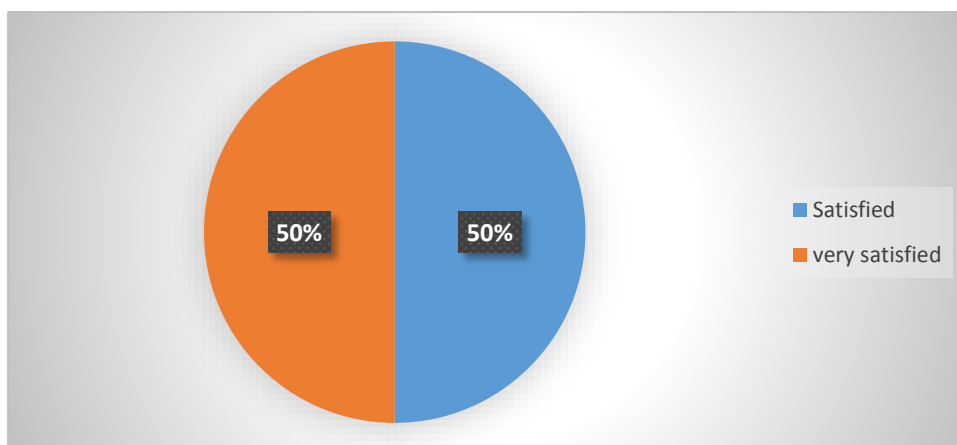
The skills are assessed on the following dimensions-

1. Technical skills and domain specific knowledge



50% of the employers are satisfied, 25% are very satisfied while 25% of them are neutral.

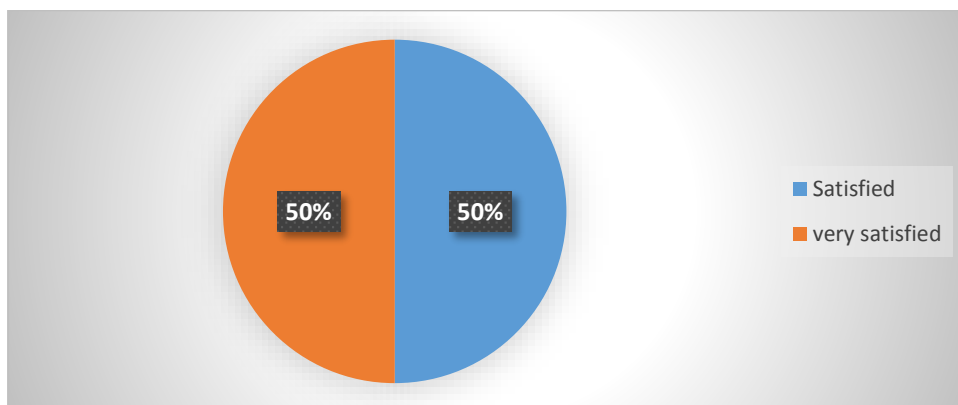
2. Teamwork and interpersonal skills



50% of the employers are very satisfied and 50% of them are satisfied.

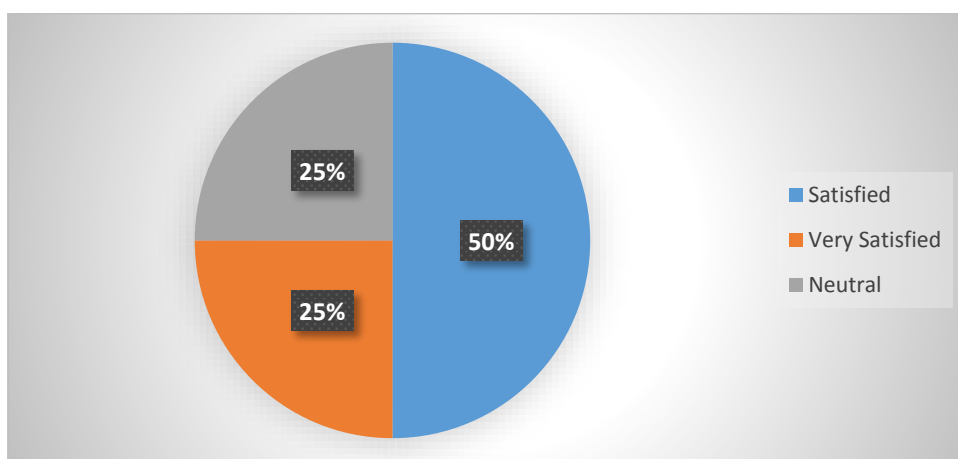
² 1=Very Dissatisfied, 2=Dissatisfied, 3=Neutral, 4=Satisfied, 5=Very satisfied, 6=Inability to judge/NA

3. Communication Skills (Oral and Written)



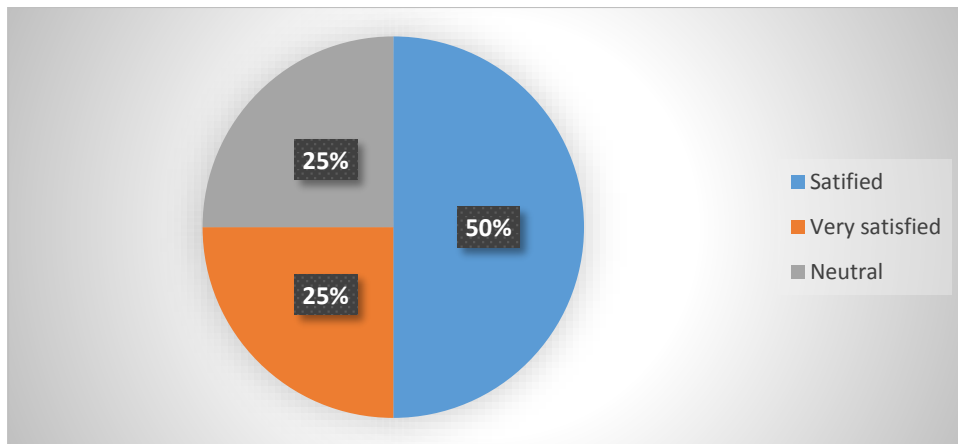
50% of the Employers are very satisfied with the communication skills of the students of TERI SAS while 50% of them are satisfied.

4. Ability to think creatively, objectively and offer insights into solving problems.



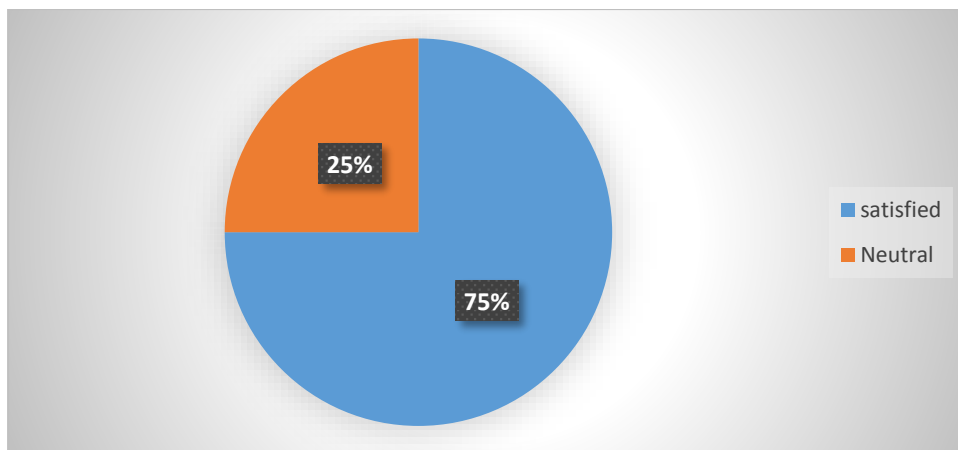
50% of the Employers are satisfied of the given skillset of TERI SAS students, 25% are very satisfied while 25% of them are neutral in their opinion.

5. Proficiency in the use of technology (IT)



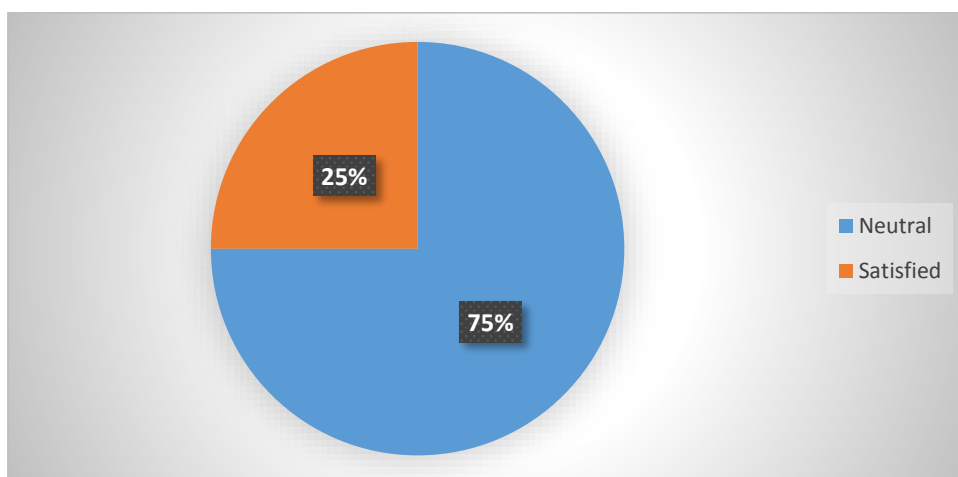
50% of the Employers are satisfied with the IT proficiency of the students, 25% are very satisfied and 25% of them are neutral in their opinion.

6. Analytical skills



75% of the Employers are satisfied and 25% of them are neutral of the following skillset.

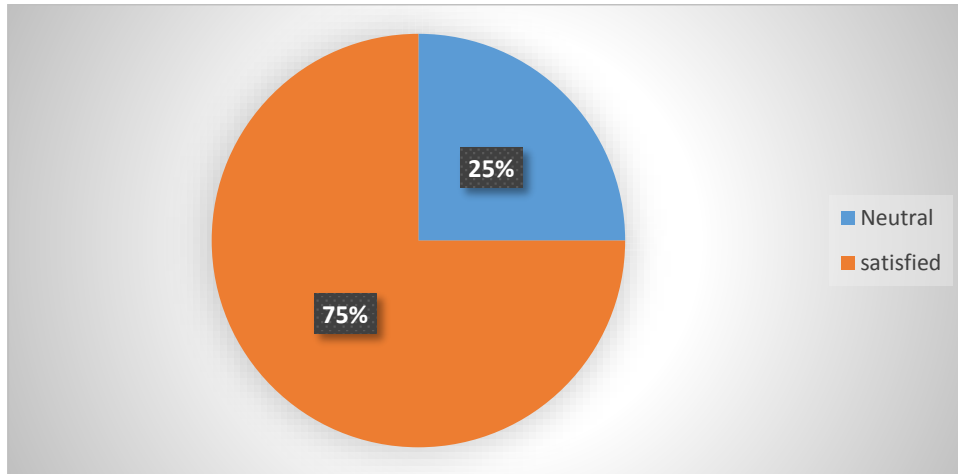
7. Project Management skills



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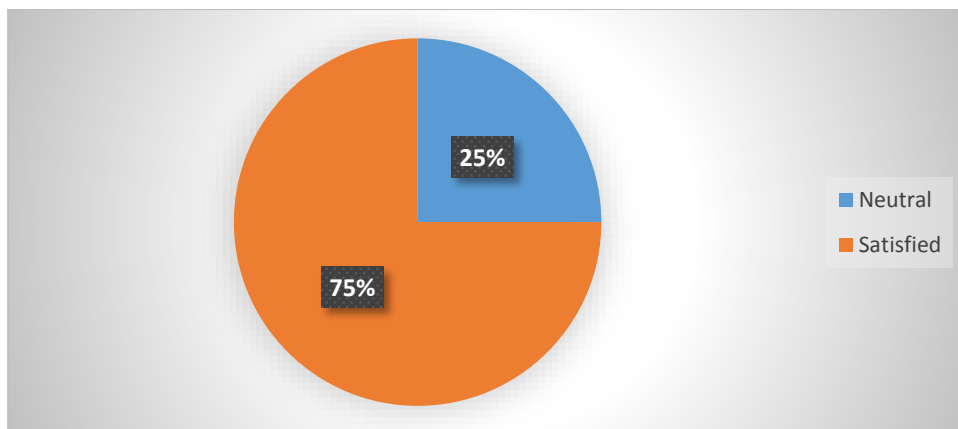
75% of the Employers are neutral in their opinion of project management skills of TERI SAS students while 25% of them are satisfied.

8. Ability to handle pressure



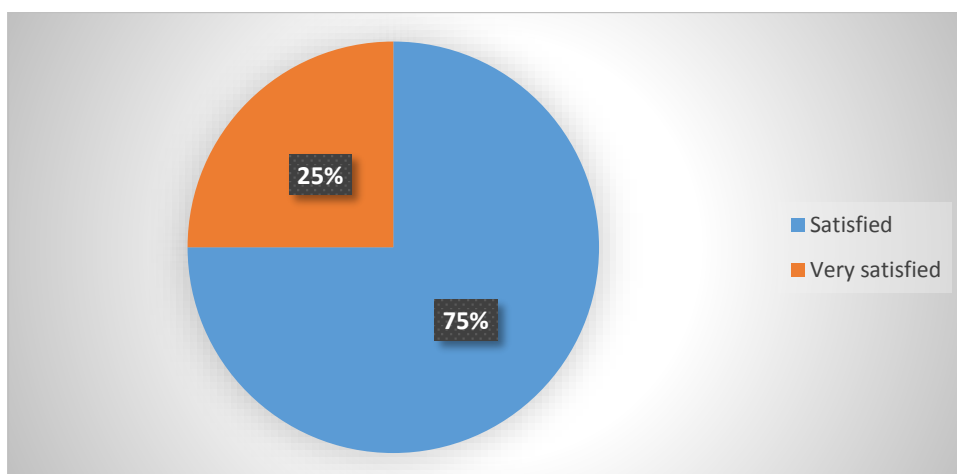
75% of the Employers are satisfied with TERI SAS students are satisfied in their capability to handle pressure while 25% of them are neutral.

9. Time management



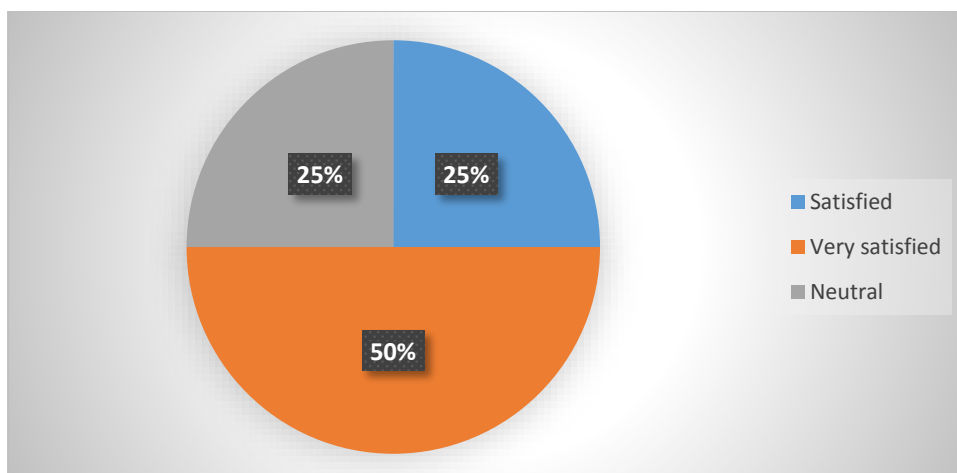
It was observed that 75% of the Employers are satisfied with the Time management capacity of the hired students of TERI SAS while 25% of them are neutral in their opinion.

10. Adherence to organisational rules and regulations



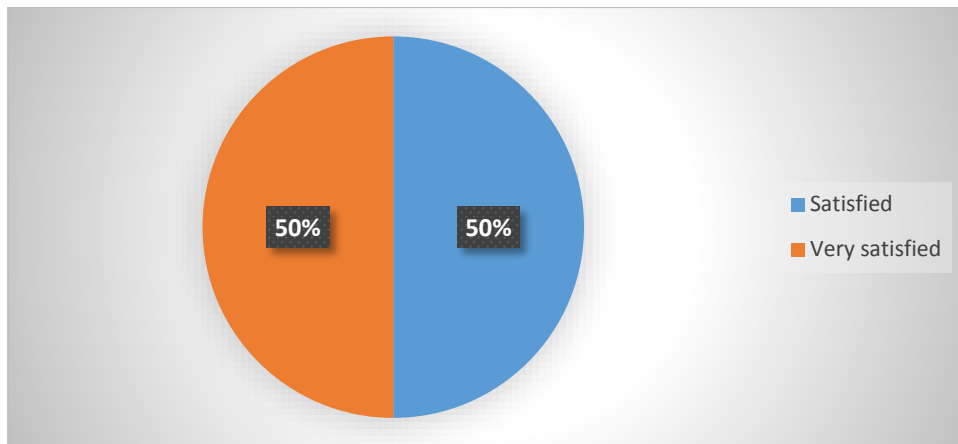
It was observed that 75% of the Employers are satisfied with the hired students for adhering to company rules and regulations while 25% of them are very satisfied in their opinion.

11. Ability to empathize



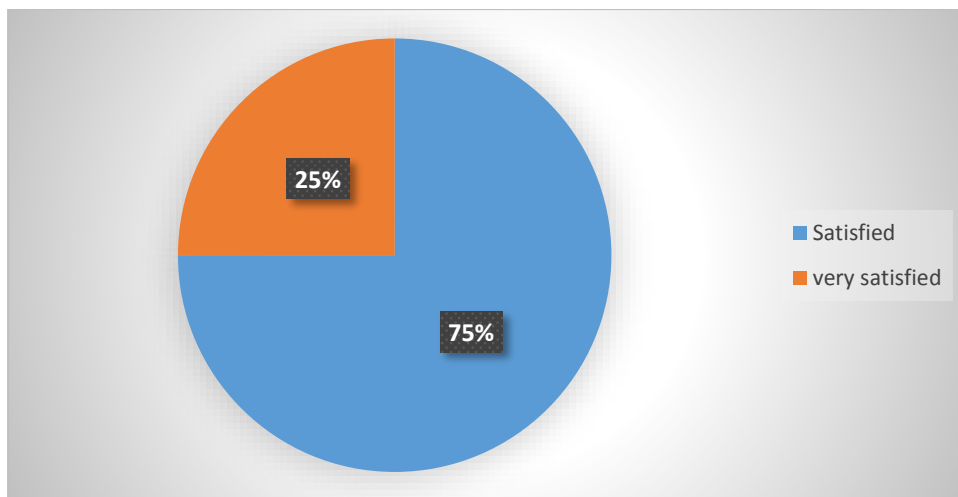
50% of the Employers are very satisfied, 25% of them are satisfied while 25% of them are neutral in regard to the ability to empathize of the hired students from TERI SAS.

12. Gender sensitivity



50% of the Employers are very satisfied and 50% of them are satisfied in regard to this opinion.

13. Professional Ethics



75% of the Employers are satisfied and 25% are very satisfied with the level of professional ethics of the hired students of TERI SAS.

1.4.1.C.

Suggestions were also requested from the employers concerning any courses/skills that they may think may be included to make the program more relevant for their organization. Following observations have been received-

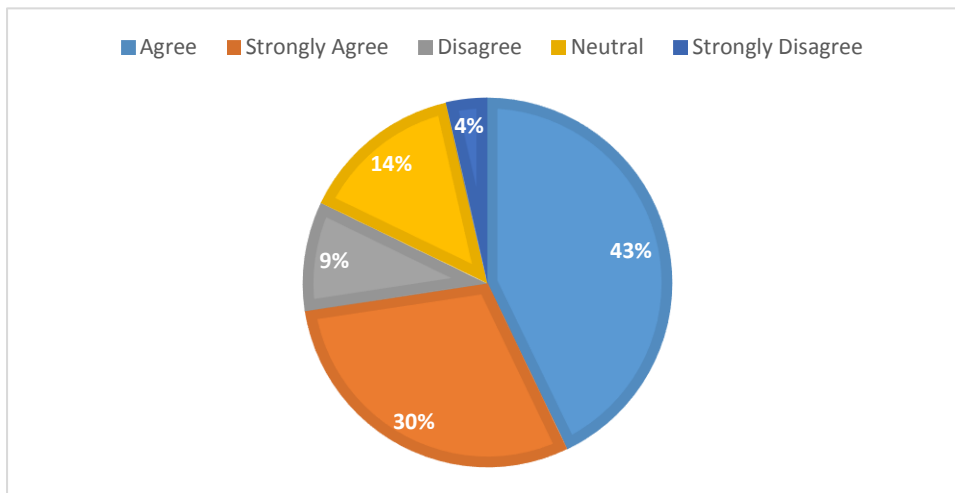
1. Corporate Social Responsibility, Environment, and Development can be incorporated in the course curriculum.
2. Well-groomed in developing analytical skill, Ms. Excel and presentation skill.
3. To update the curriculum on latest developments, municipal financial analysis, urban planning issues, project planning, and development
4. Recommendation of people management and leadership skills through the program.

Feedback from Alumni

The feedback from Alumni has also been obtained for assessment of the programs where they passed out as students. They have been requested to rate the program on a scale of 1 to 5 for the given skills. They can mark 6 if the given skill illustrated below does not apply to them. 84 responses have been obtained.

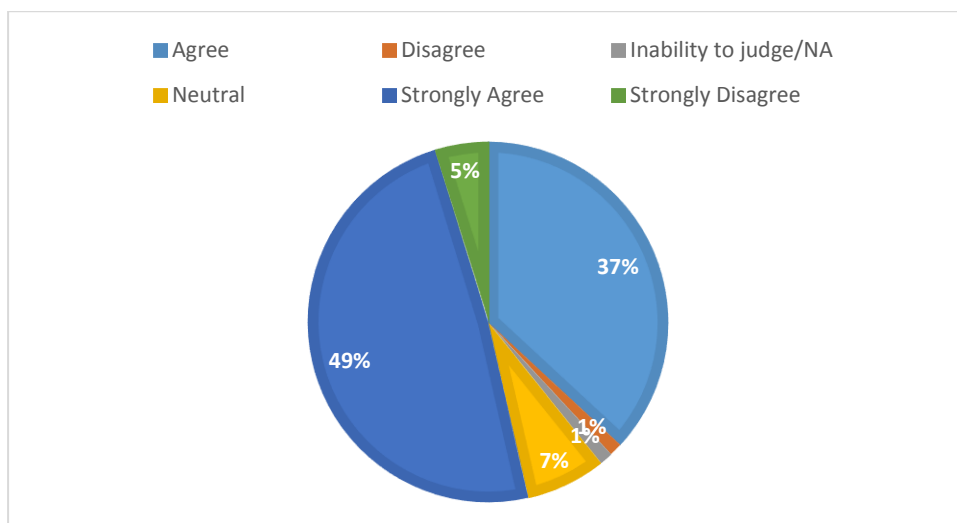
The assessment of the following skills have been requested for-

1. The program inculcated employability skills in me



43% of the alumni agreed, 30% strongly agree, 14% are neutral, 9 % disagree and 4% strongly disagree in regard to employability skill.

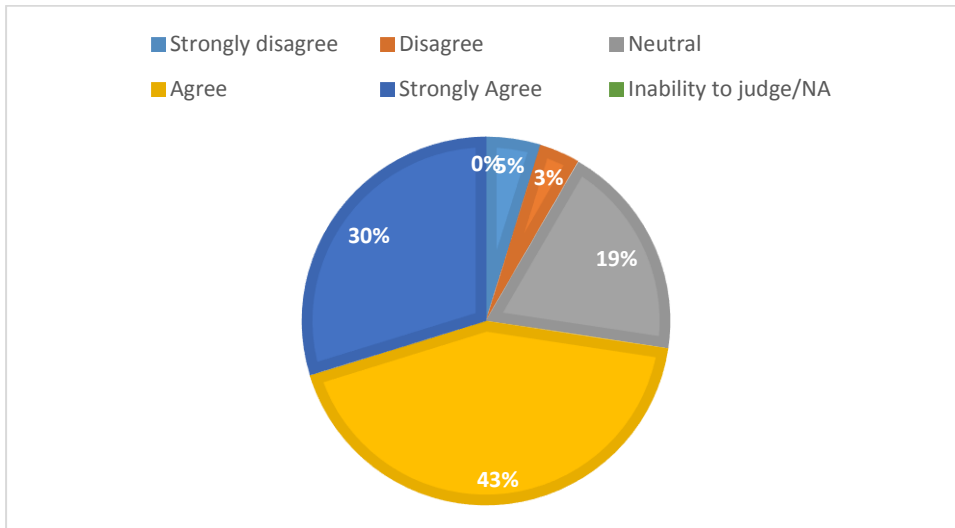
2. The program played an important role in my personal growth and confidence building



1.4.1.C.

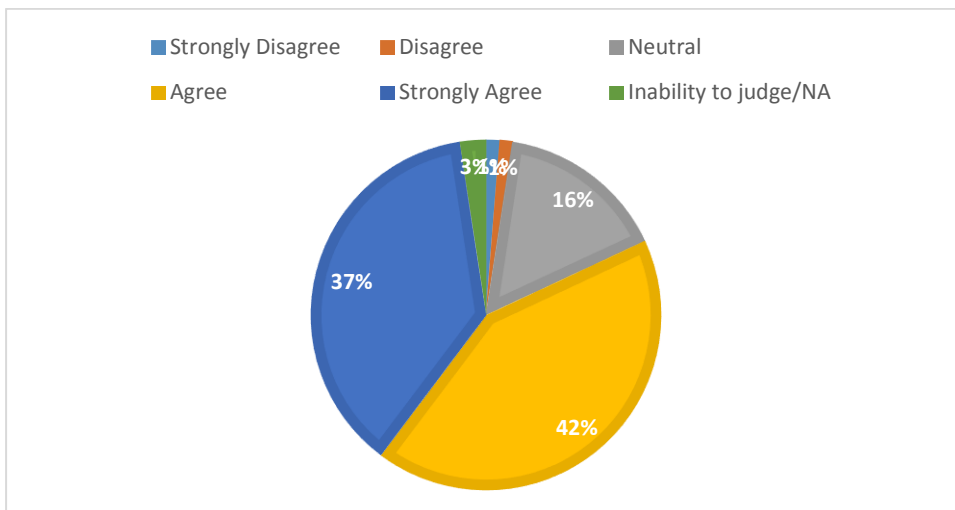
49% of the alumni strongly agreed, 37% agreed, 7% are neutral, 5% strongly disagreed, 1% disagreed and 1% is not able to judge in assessing whether the program they were enrolled was able to groom them for their personal growth and level of confidence.

3. The program instilled problem solving and decision-making skills in me



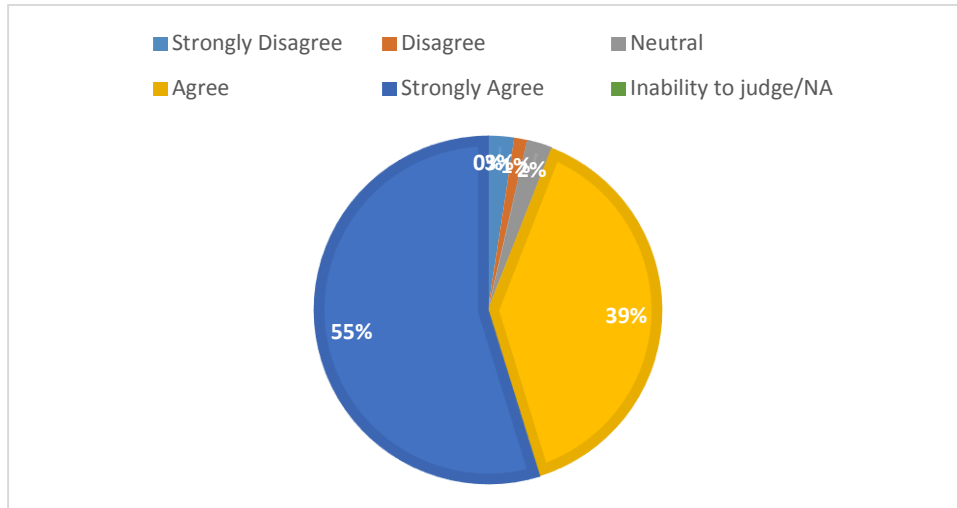
Majority of the alumni (around 43%) are of the opinion that the program was able to instill problem-solving and decision making skill while 19% of them remained neutral.

4. The program improved my communication and team working skills



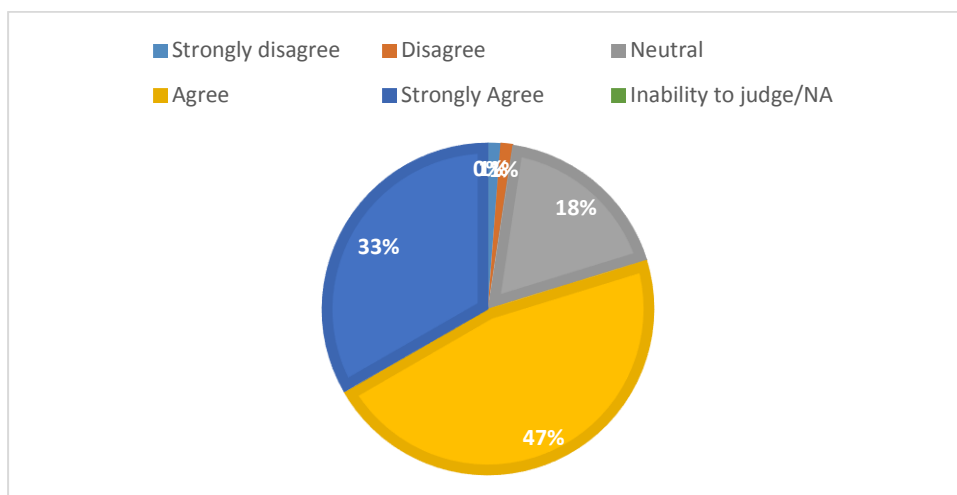
42% of the alumni agreed, 37% strongly agreed, 16% are neutral, 3% are not able to decide of the contribution of the program in developing their communication skill.

5. The program inculcated knowledge of sustainable development in me



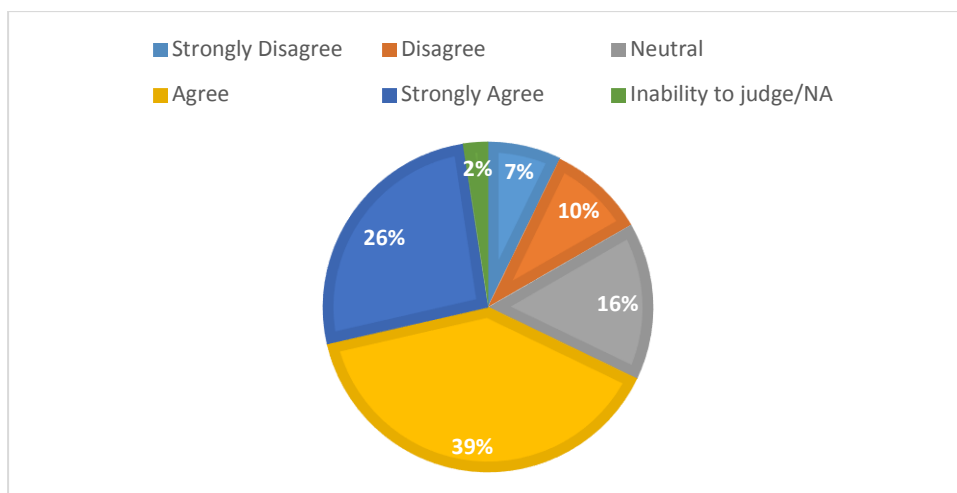
Majority of the alumni agreed to the opinion that the program they were enrolled was able to inculcate the knowledge of sustainable development.

6. The program improved my critical thinking ability



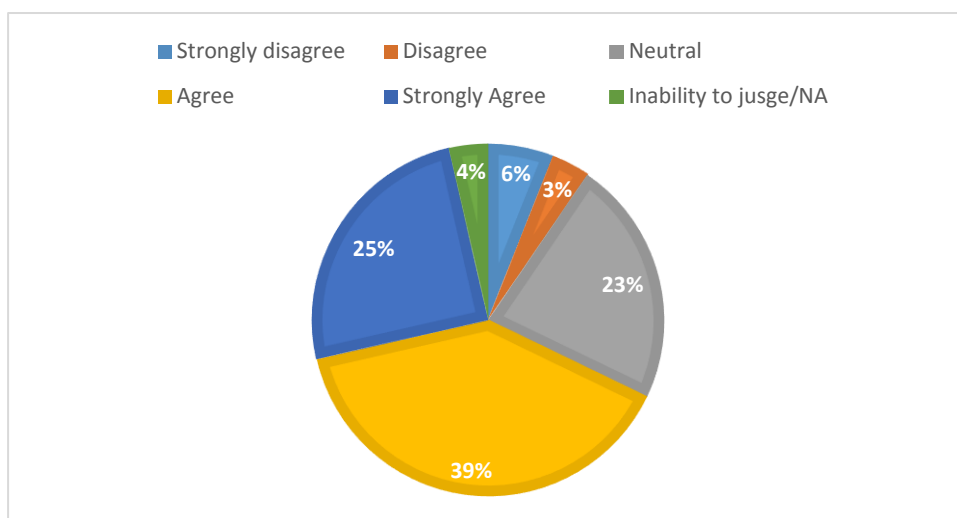
The alumni feel that the program was capable in generating critical thinking ability within them.

7. The program provided me adequate theoretical, analytical knowledge and hands on skills in the field of specialization



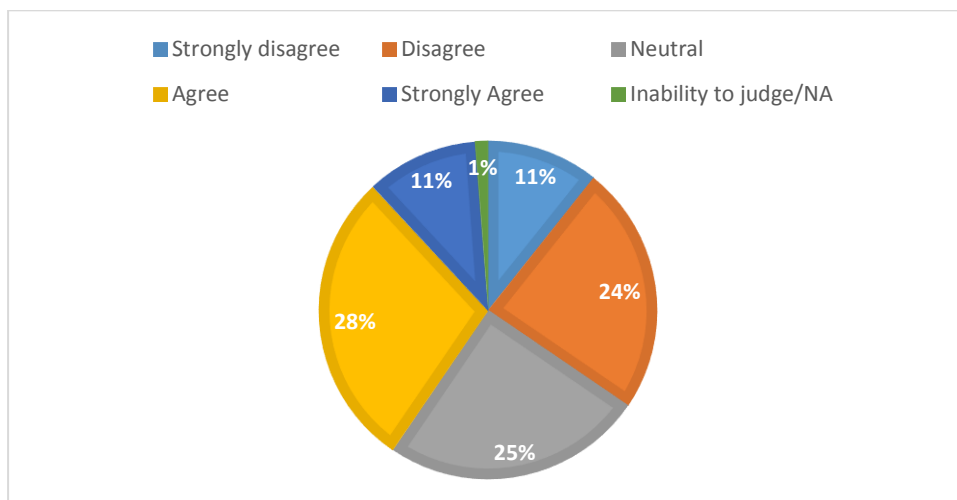
39% of the alumni agreed while 26% strongly agreed of the success of the program in providing them adequate theoretical, analytical knowledge as well as hand on experience.

8. The nomenclature of the program is unique, and it gave me first mover advantage



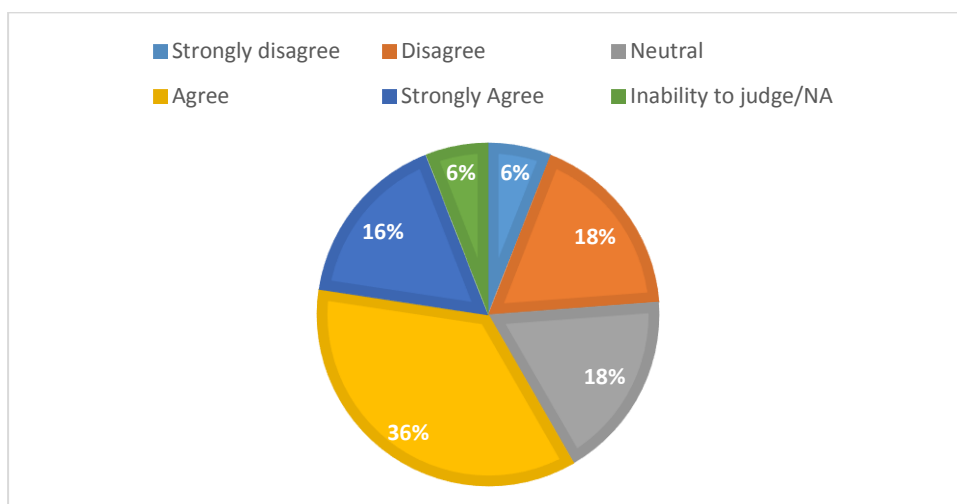
39% of the alumni agreed, 25% of them strongly agreed while 23% are neutral of the uniqueness of the program.

9. The program gave me exposure to IT skills



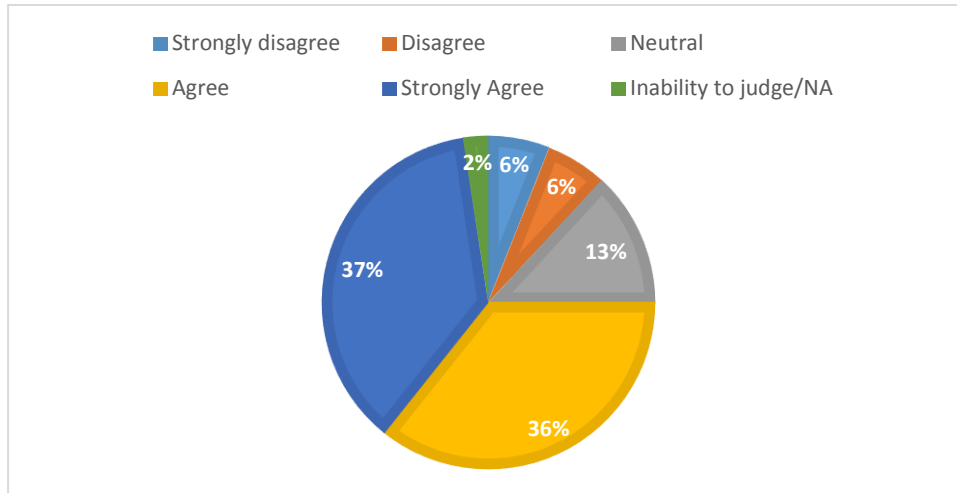
28% of alumni agreed, 25% are neutral, 24% disagreed of the program's exposure to IT skills.

10. I was mentored while was an ongoing student and post qualification



16% of the alumni strongly agreed, 36% agreed of the mentorship provided by the faculties both as an ongoing student as well as post qualification.

11. I would recommend the program to other prospective students



37% of the alumni strongly agreed, while 36% of them agreed of referring the program to other prospective students.

Comments and suggestion also have been requested from them for any courses/skills that they think may be included to make that program Industry/Research relevant

Please suggest any courses/skills that you think may be included to make our program Industry/Research relevant
Industry exposure and live case studies can be incorporated
More hands-on relevant IT training from a business perspective
<p>For REEM-</p> <ul style="list-style-type: none"> a. Building Energy Analysis should be made as a separate course. More focus is required on Energy efficiency, developing business models in the Energy field, rather than focusing only on Solar Energy. b. More research and analytical courses required than purely technical for M.Tech REEM. More MBA courses should be included in the REEM curriculum. c. More interactive sessions and introduction to software packages for dealing with large-scale solar PV, wind, biochemical energy conversion projects which are of national importance d. Course on electric vehicles, energy storage, energy markets, energy data management e. Certification similar to NABCEP can be done for the solar certification f. Technology Commercialization can be emphasized g. Topics like mathematical optimization, programming in Python or R, hands-on course projects on programming, etc. would prove to be very essential for the students
Some latest tools, a robust research project module can be introduced that helps to experience hypothesis or theoretical lens construction and other technicalities. This will help the students to place their arguments better when they in the industry.
The M.BA program can address placement issues. Also, the MBA program should be more relevant with the current times and more industry focussed
More field exposure, Monitoring, and evaluation, software packages like R, Program implementation- developing of intervention, emphasis on Proposal writing, economic evaluation techniques, Exposure to CSR and policy advocacy can be incorporated.
Technical content writing with special emphasis on Environment and sustainability. The pre-existing writing skills courses of TERI are not adequate.
More emphasis on hands-on training of IT software that can increase the employability of the students across all courses.
An additional class to expertise students with MS Excel & PowerPoint thoroughly is a must which should be included as a mandatory add on course for every MBA student. The corporates expect that MBA candidates should have a thorough knowledge of MS Office.
Skill oriented credit courses, live project, and relevance or impact of AI in Industry.
Specialization (Online / Distant Learning) Courses on topics like Solar Energy, Wind Energy, Hybrid of various Energy Systems.
Wastewater and Desalination online course can be started in the Water department. Also, Digital solutions for Energy and water industry can be included

1.4.1.C.

Problem-solving and brainstorming sessions should increase. Innovation and Entrepreneurship competitions for 3rd sem students. There is a need innovations/business models out in the real world
Without proper placements, nothing you do to improve the course matters in the long run. Students need good job opportunities besides having a rigorous course to be successful in life and refer other students and so on for TERI SAS to operate viably.
Exercise self-learning
Need to provide assignments and projects that are more analytical and critical thinking based rather than giving some sort of assignment that students copy and paste. Study tours need to more course orientated and need to build a connection with theory rather than only a pleasure trip.
For PhD students- a) rigorous training of different programming languages to be introduced. Advanced STATA is not enough and is not a good strategy. Rather python and R should be taught extensively. b) Students should be encouraged to write their thesis and their assignments in latex or scientific workplace, rather than on writing them in word. It gives a good practice and you learn something additional which is important these days. c) Interaction between the thesis supervisor and student should also be using an interface like Github. Where sharing files, a collaboration of work, etc can be easily done. d) Macro Economics should be taught with a wider perspective in mind so that we can apply it to the real world. e) We should be taught dynamic programming in a Master's level program.
M.Sc in Environment sciences (distance learning/ online course) should be encouraged. Since there is an increase in environmental concern throughout the world most of the industries mandated to have an environmental professional in every factory/ industry moreover post-graduation in the environment is helpful for professionals in any field such as electrical mechanical - distance learning/ online course helps work professionals too.
For M.A in SDP, Compulsory Courses like :Social Audit, Impact Assessment, data analytics, Project Management, Peace and conflict studies, monitoring and evaluation can be introduced.
Industry tie-ups projects/study be there wherein students get an opportunity to learn during weekends and work and contribute to their choice of field.
PGDRER is deeply technical & of high quality, but purely theoretical -unusable and excess, but lacks end User or Innovation centric Content or Assignments(Just searching book fetched all answers). There is need for an exposure to Domestic and Office level basic Carbon Footprint compilation, analysis, and quantification -that exposes students to be explicitly knowledgeable of core equipment/process that contributed to Co ₂ . The course lacks exposure to even Basic House /Office construction site based EIA (Environmental Impact Assessment). The course may well benefit non-science graduates/ Marketing persons or to become field level energy technicians by enhancing their secondary school's science into the Renewable Energy sector's skills.

1.4.1.C.

Inclusion of more industrial research-based topics in the curriculum
There used to be block courses on communication skills and research methodology. If they are still running as block courses, please try to accommodate them as a full/half-semester course.
More invited presentations from leading Industries and Service sectors can be facilitated in the university.
It may be worthwhile to have a course on the 'History and Philosophy of Science' in either the 1st or 2nd semester for the PhD students
Ph.D. course work should include multi-disciplinary courses and campus recruitments should also apply to the research scholars. In case the latter isn't possible, the range of scholarships should be expanded.
Publishing academic work can be encouraged.

Review of MSc Climate Science and Policy Program

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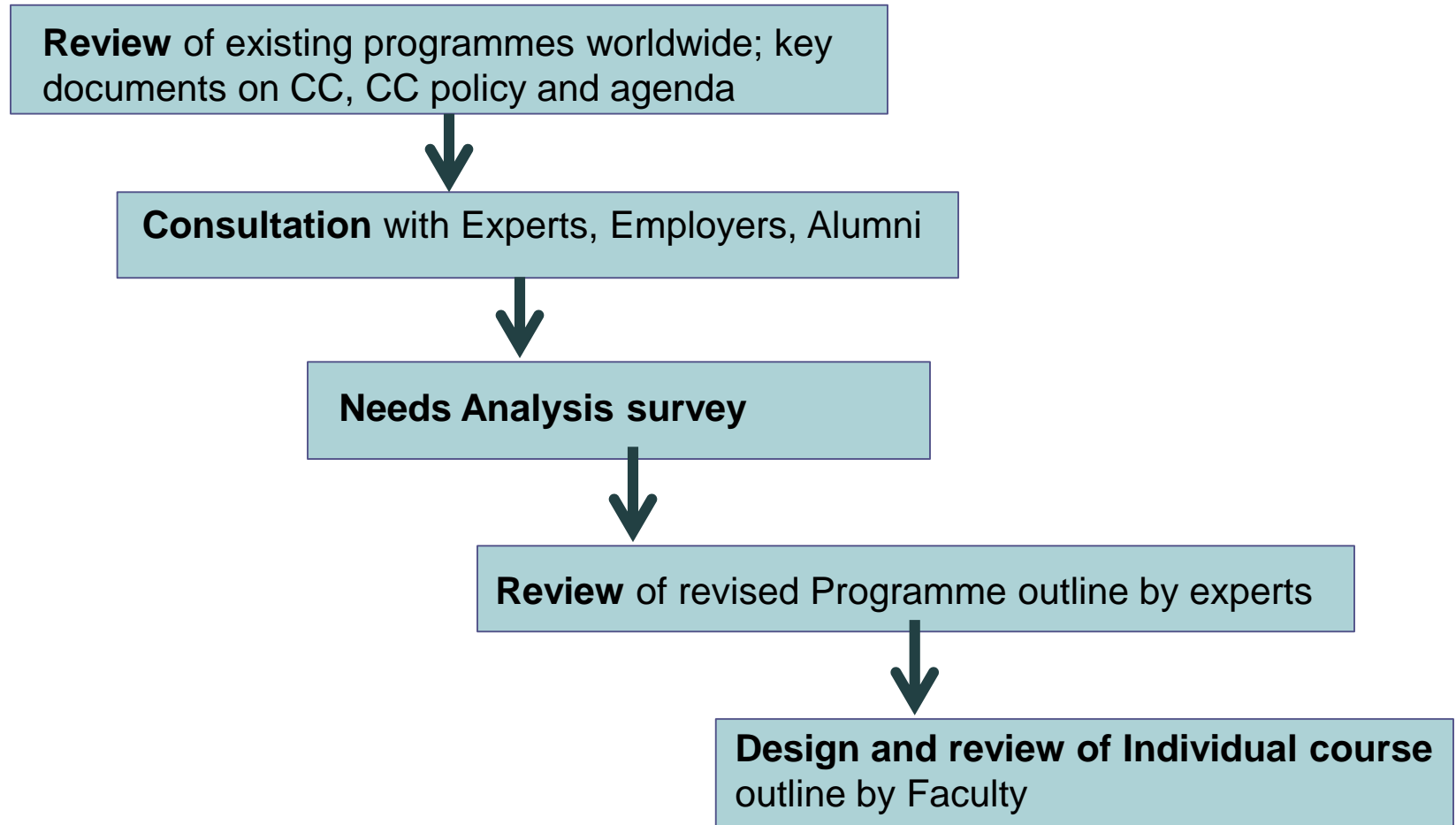
Need of the Revision

Recognition, Accreditation and Quality Assurance

- ❑ Need for **enhancement of quality, recognition of excellence, fostering accountability, providing information and to facilitate benchmarking of institutions.**
- ❑ The quality and standards of Indian higher education institutions need to be **upgraded systematically and sustained at a high level through rigorous screening, innovation and research, recognition of excellence and creativity.**

(7.1.2; 9.30.9 National Policy on Education, 2016)

1.4.1.34 Step taken for the CSP Review



Review Process of MSc CSP program

Step 1: Review of the content and structure of the MSc program related to climate offered in Universities/institutions (National and International).

Step 2: Review international and national perspectives on climate change

Step 3: Gap analysis of the existing program based upon step 1 & 2

Step 4: Internal curriculum development workshop

Step 5: Needs analysis from placement, potential employers, private and govt. organizations, current and alumni students (*online survey was designed and implemented*)

Step 6: Refinement of program objectives & structure (based on Step 3, 4, 5)

Step 7: Internal curriculum development workshop/policy makers workshop/ employers feedbacks

Step 8: Review of proposed structure from experts

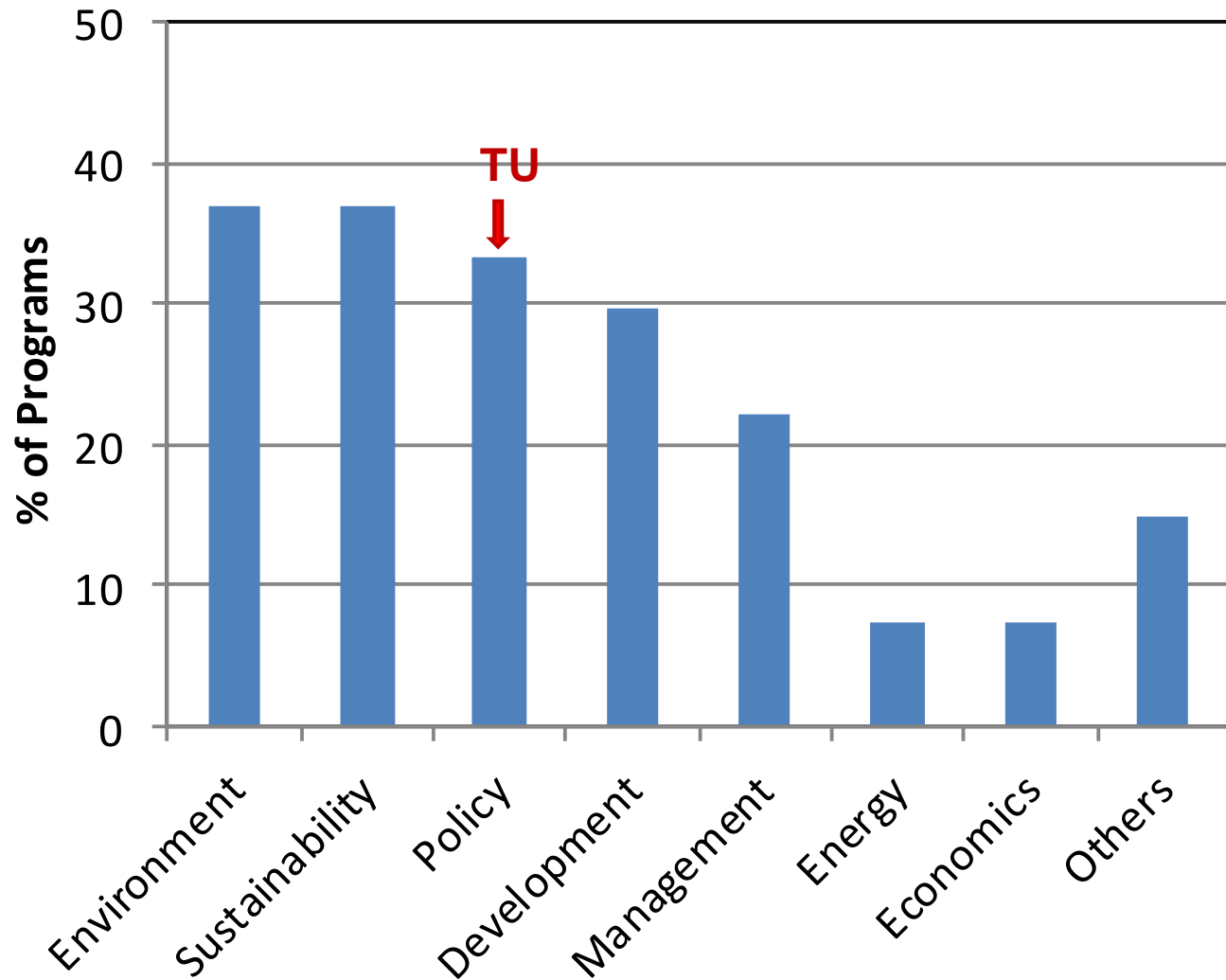
Step 9: Course outline preparation and review of outlines

Review Process of MSc CSP program

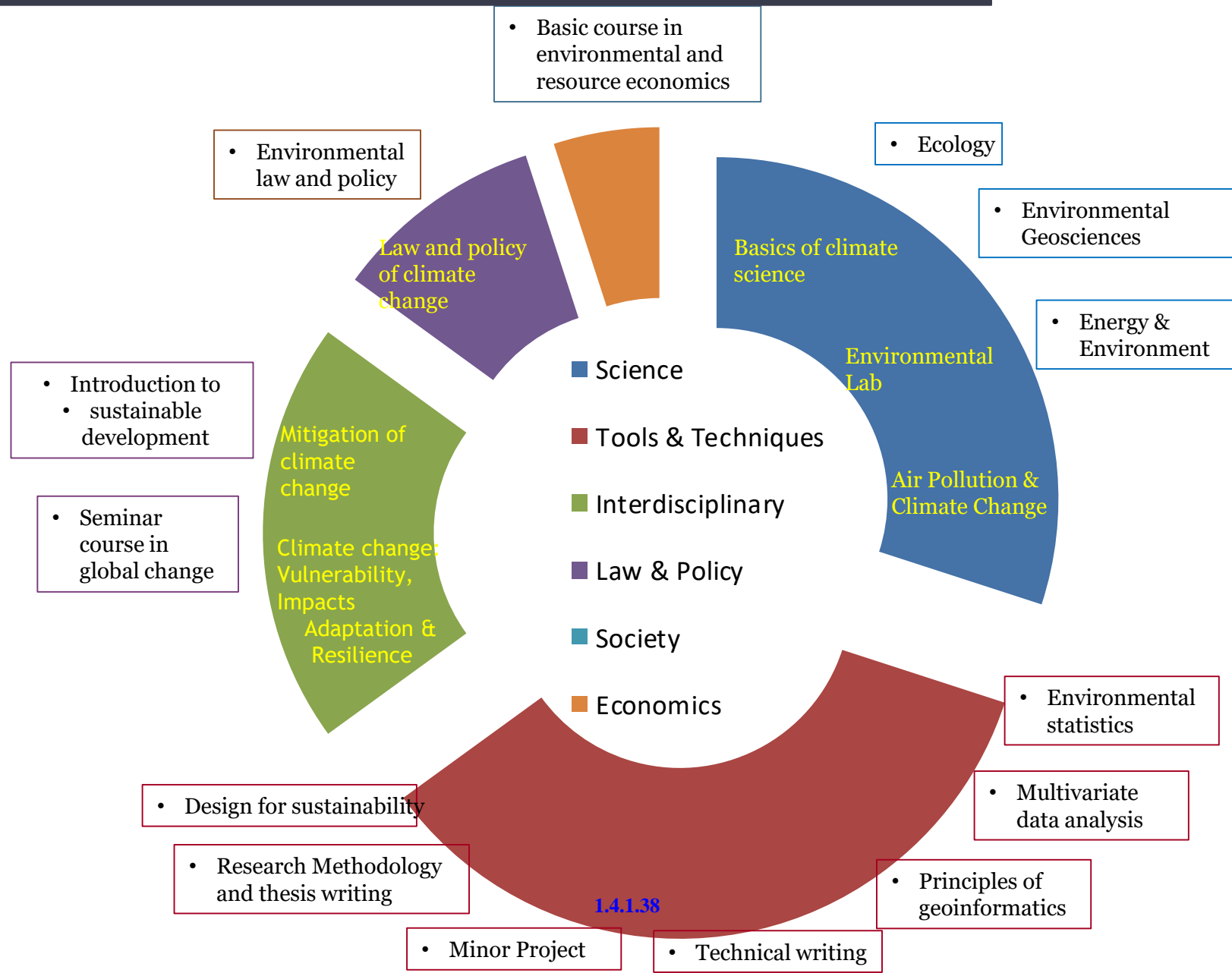
Step 1: Review of the content and structure of the MSc program related to climate offered in Universities/institutions (National and International).

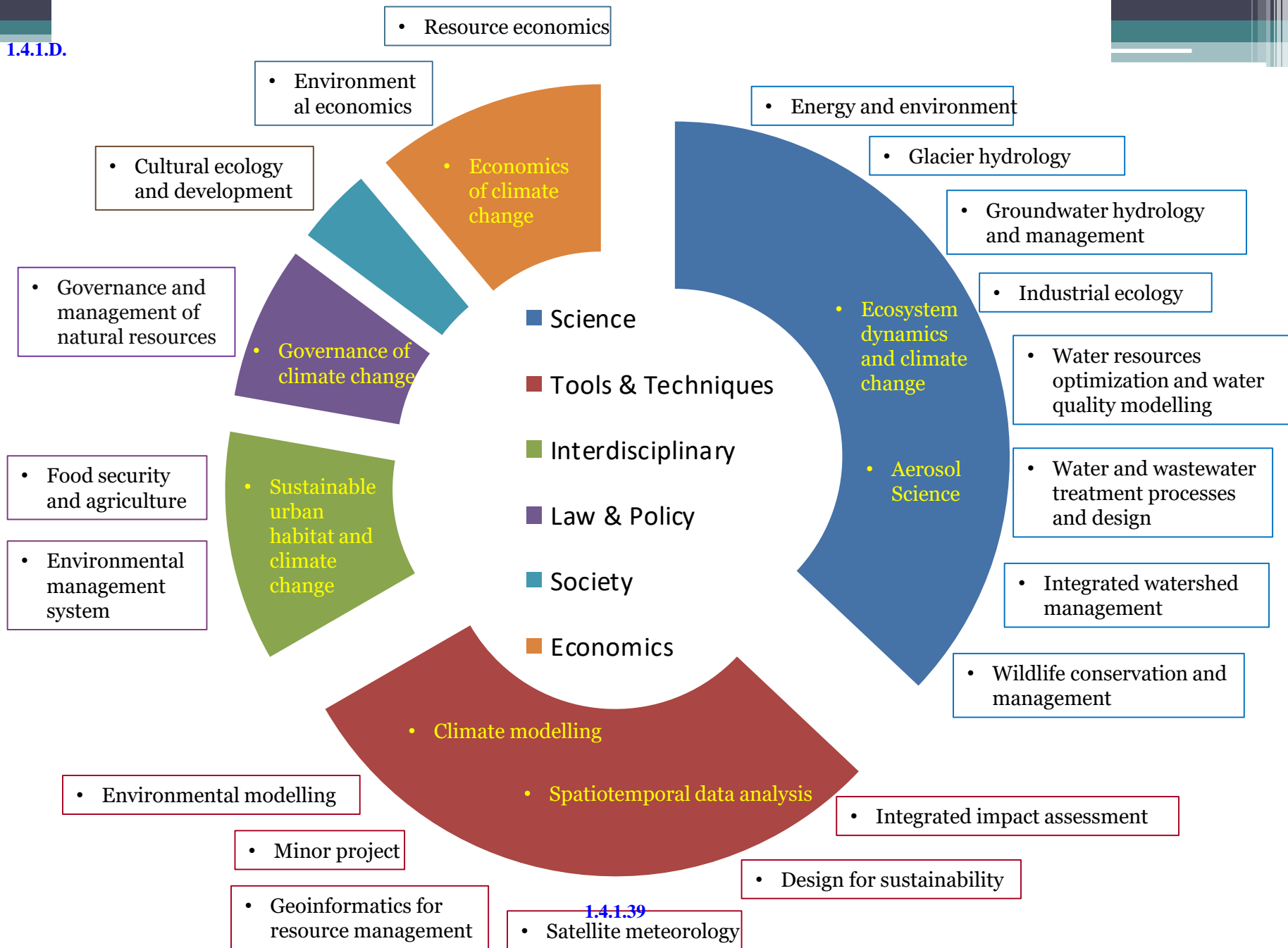
- Comparison of nomenclature of the MSc programs
- Comparison of different thematic areas/program structure of these MSc programs

Nomenclature of climate change related Masters degree programs in other universities



MSc CSP TU – courses offered in the 1st and 2nd Semester

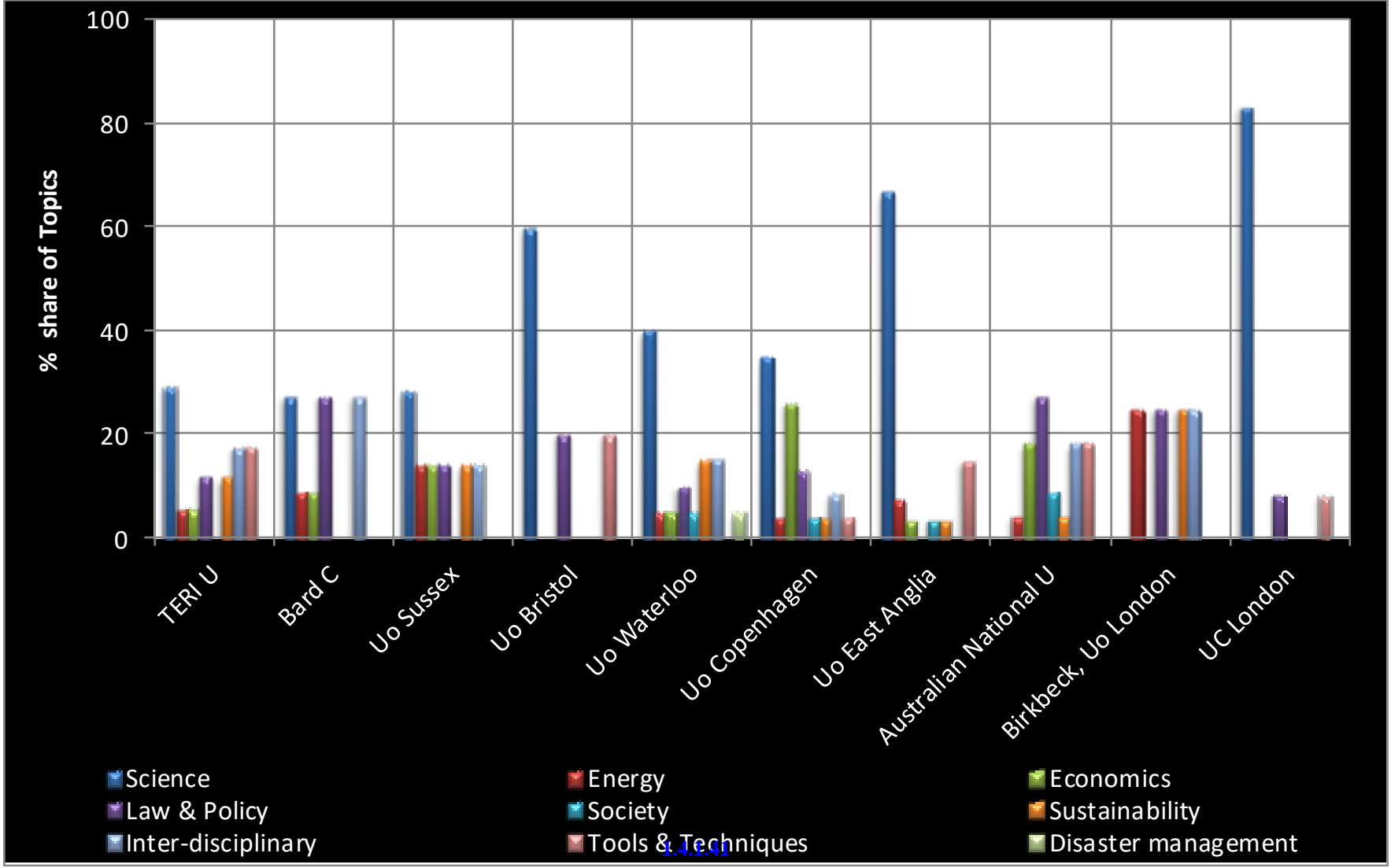




Distribution of thematic areas of MSc Programs

University	Science	Energy	Economics	Law & Policy	Society	Sustainability	Interdisciplinary	Methodology
TERI University	5	1	1	2	0	2	3	3
Bard College	3	1	1	3			3	
University of Sussex	2	1	1	1		1	1	
University of Bristol	3			1				1
University of Waterloo	8	1	1	2	1	3	3	
University of Copenhagen	8	1	6	3	1	1	2	1
University of East Anglia	18	2	1		1	1		4
Australian National University		1	4	6	2	1	4	4
Birkbeck, University of London		1		1		1	1	
University college of London	10			1				1

Distribution of thematic areas of MSc Programs



Does the current MSc CSP program at TU address the objective stated earlier?

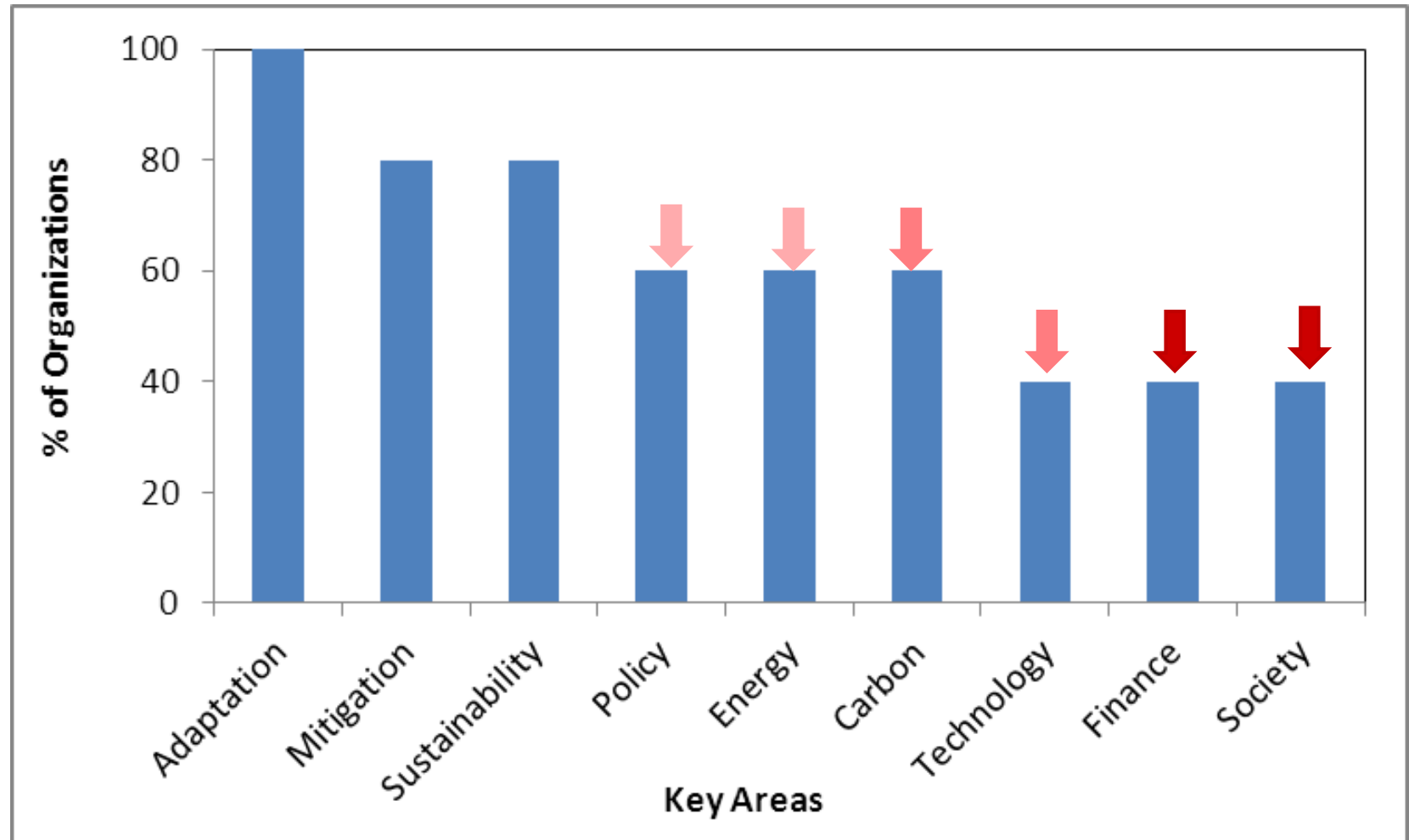
“...a robust and pioneering curriculum that will produce a workforce equipped to address challenges that climate change may pose in the future”.

For this, we should identify the **key climate change issues and assess if these are addressed in the curriculum.**

Step 2: Review international and national perspectives on climate change

S. No.	Reference	Outcome
1	Universities (national & International)	No. of universities (5 National and 20 International); - Best approach to emphasize on “ Multidisciplinary ” aspects of climate change (** Special focus on Climate, Energy and sustainability)
2	Key international organizations – reports and agendas (UN, WB, ADB, etc.)	No of organizations (6) focus area - Adaptation & Mitigation; Carbon accounting; Sustainable/ climate resilient development; Finance; Green growth; Climate policy and governance; Renewable/ clean energy; Technology; Society & Capacity building
3	National action plans on climate change	- Outlines a national strategy that aims to enable the country adapt to climate change - NAPCC focus on Enhanced energy efficiency, sustainable habitat, Water mission, Ecosystem, Green growth, sustainable agriculture and strategic knowledge for climate change
4	Important meetings in the areas of climate change (COP, RIO20+ etc.,)	Adaptation & Mitigation; Finance; Technology and Capacity building; Sustainable development; Clean energy; cities; Disasters
5	Job market demand	Placement records; public sector; private sector; NGOs, Consultancies; embassies (Swiss, British council); job portals (devnet, naukri.com); Research (FICCI) 1.4.1.43

International and national perspectives



Step 3: Gap analysis of the existing program based upon step 1 & 2

Step 4: Internal curriculum development workshop

Two meetings

TU Faculty and TERI researchers

1. Dr Leena Srivastava
2. Prof. Prateek Sharma
3. Dr. Rajiv Seth
4. Dr Anu Rani Sharma
5. Mr Saurabh Bhardwaj
6. Ms Neha Pahuja
7. Mr Manish Kumar Shrivastava
8. Dr. Prodipto Ghosh
9. Dr. Ritu Mathur
10. Ambassador C Dasgupta
11. Mr Prabir Sengupta

TU Faculty and TERI researchers

1. Dr Leena Srivastava
2. Dr Arabinda Mishra
3. Prof. Prateek Sharma
4. Prof PK Joshi
5. Dr Anu Rani Sharma
6. Mr Saurabh Bhardwaj
7. Ms Neha Pahuja
8. Mr Manish Kumar Shrivastava
9. Dr. Prodipto Ghosh
10. Dr KaushikBandhopadhyay
11. Dr. Rajiv Seth
12. Dr. Ritu Mathur
13. Prof. Suresh Jain

Review Process of MSc CSP program

Step 5: Needs analysis from placement, potential employers, private and govt. organizations, current and alumni students (*online survey was designed and implemented*)

	List	Sent	Received
Government	15	8	1
Consultancy	13	5	2
University	18	15	4
Research Institute	26	17	3
NGO	19	7	1
International	7	6	3
UN	4	4	
Corporate	7	2	1
Total	109	64	15

Review Process of MSc CSP program

Step 6: Refinement of program objectives & structure (based on Step 3, 4, 5)

Step 7: Internal curriculum development workshop/policy makers
workshop/ employers feedbacks

Consultation with various workshop participants

- BLISS Participants
- ITEC participants
- Capacity building program in climate vulnerability and adaptation

Review Process of MSc CSP program

Step 8: Review of proposed structure from experts

Step 9: Course outline preparation and review of outlines

Experts

1. Prof Meeta K. Mehra, *Professor, Center for International Trade and development, JNU*
2. Dr. Purnamita Dasgupta, *Chair in Environmental Economics and Head, Environmental and Resource Economics Unit, Institute of Economic Growth*
3. Prof A P Dimiri, *Professor, School of Environmental Sciences, JNU*
4. Prof. A K Attri, *Former Dean, School of Environmental Sciences, JNU*
5. Prof. K Narainan, *Professor, IIT Mumbai*
6. Dr S Neetu, *National Institute of Oceanography, Goa*
7. Dr Prodipto Ghosh, *Distinguished Fellow, Earth Science and Climate Change, TERI and Former Member, Prime Minister's Council on Climate Change*

Revised MSc Climate Science and Policy Program

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1.4.1D Philosophy of the programme

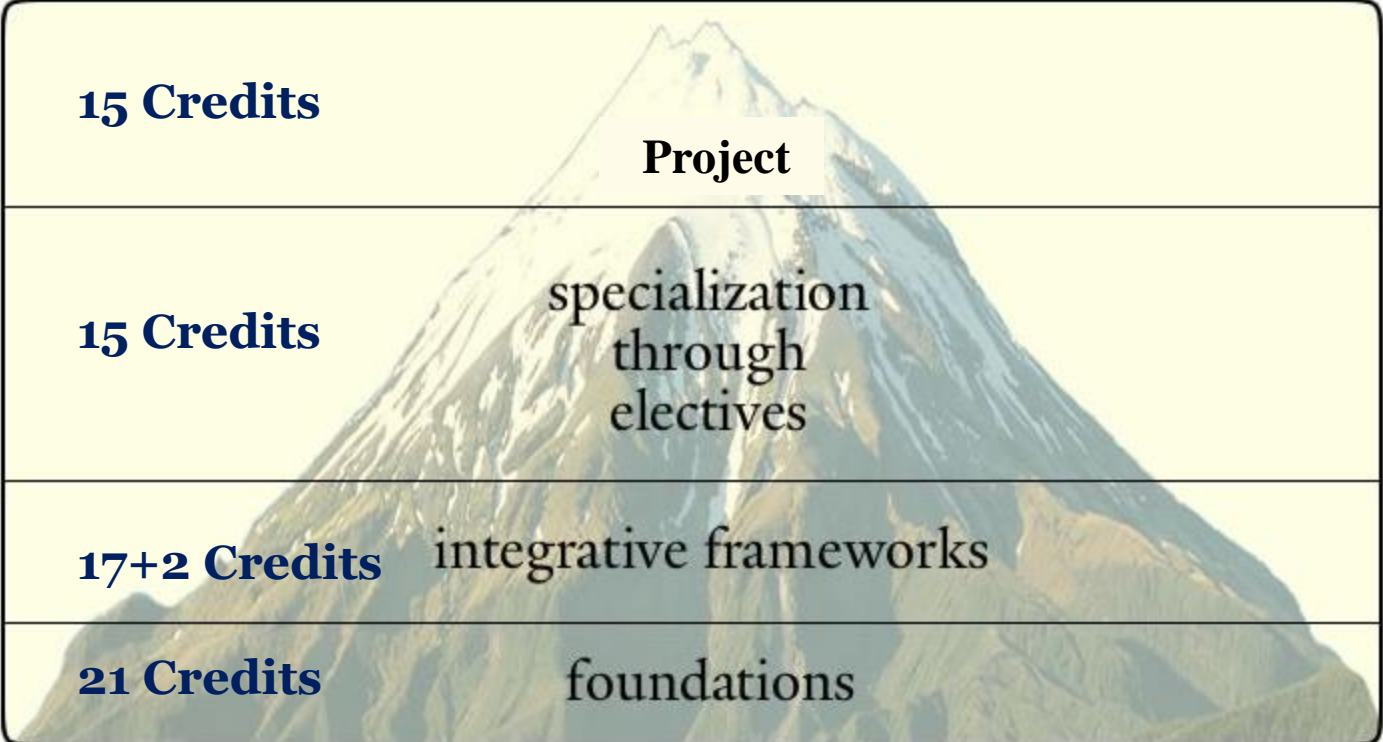
Aim of the program: This program will give students the knowledge and skills to analyze and interpret information (modeling, observation, scenarios etc) to address national and global challenges stemming out of climate change.

Upon completion of the programme the students will be able to;

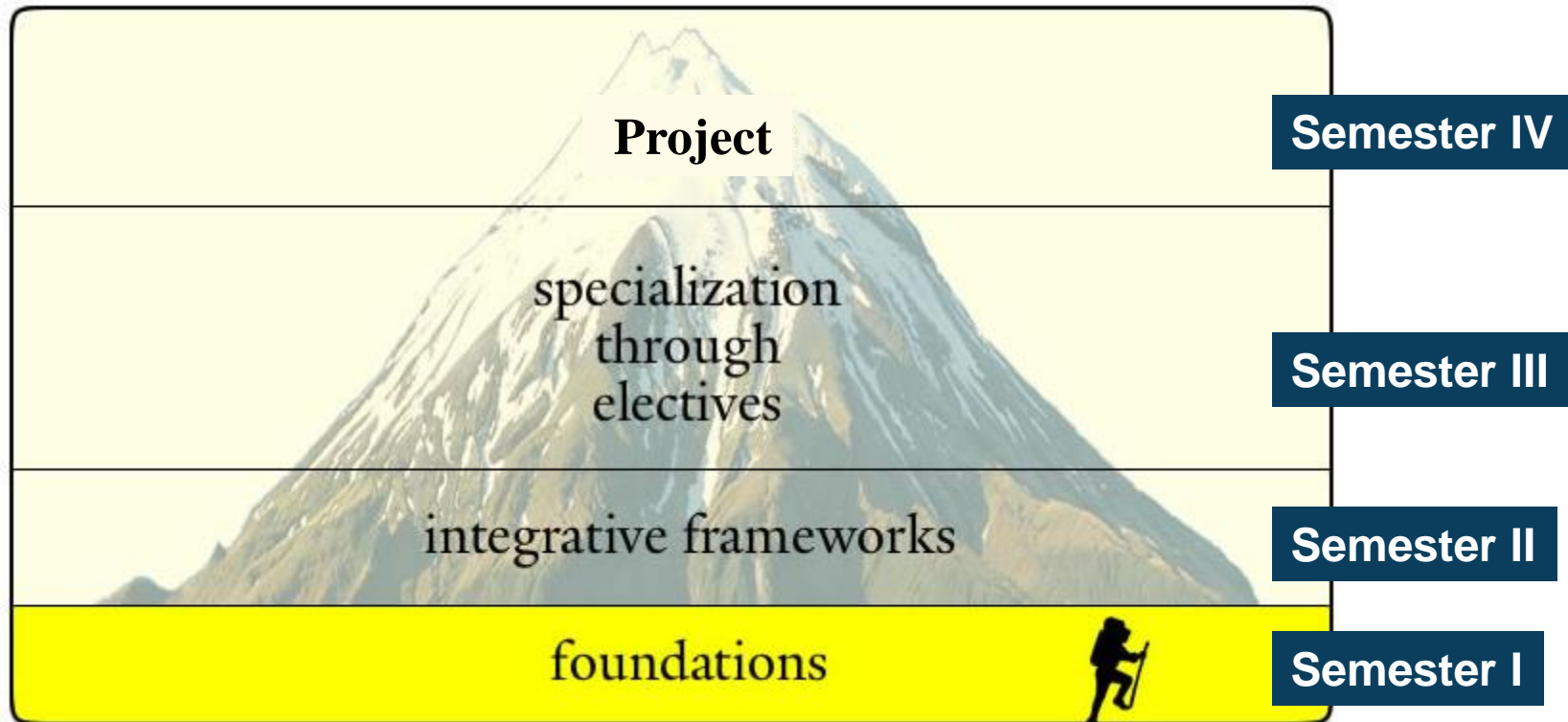
- ☐ Demonstrate inter-disciplinary knowledge of the concepts, principles, tools and techniques pertinent to climate science and policy.
- ☐ Apply various research techniques to analyse impacts, scenario generation, vulnerability and risks posed by climate change.
- ☐ Proactively work with inter-disciplinary teams on problems resulting specifically from global environmental and climate change.

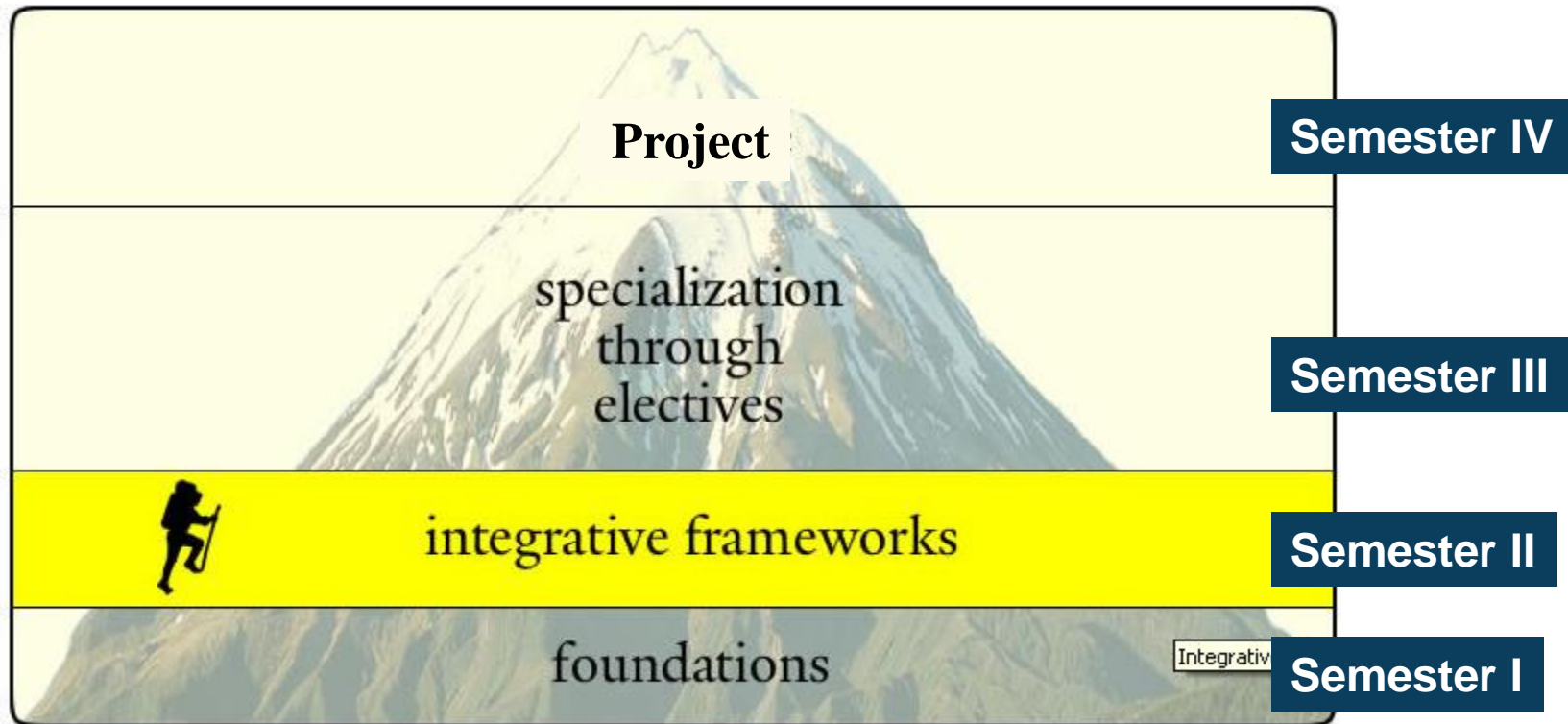
USP of the program will be: Skill based learning, interdisciplinary approach, unwind the inter-relationship between science of climate change, environmental policy and governance.

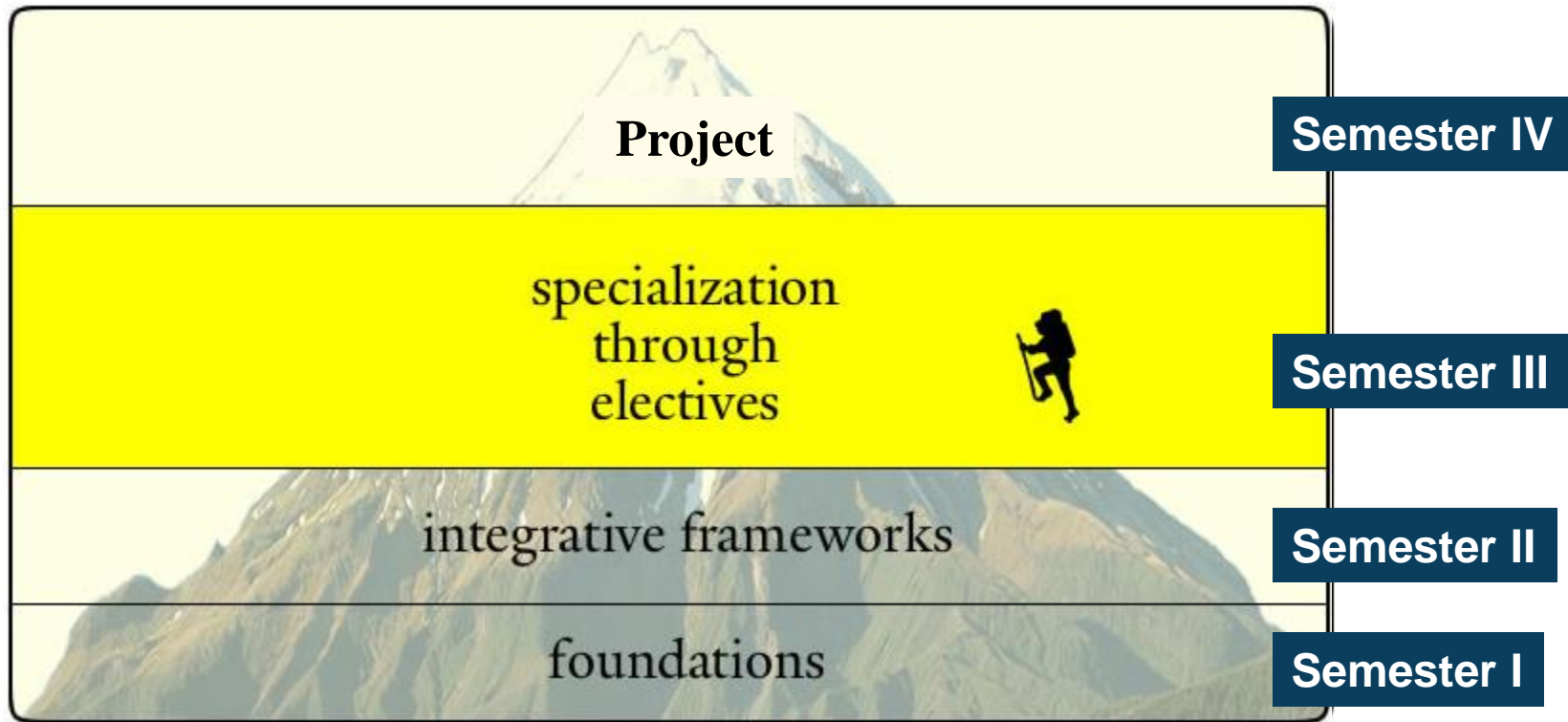
Structure

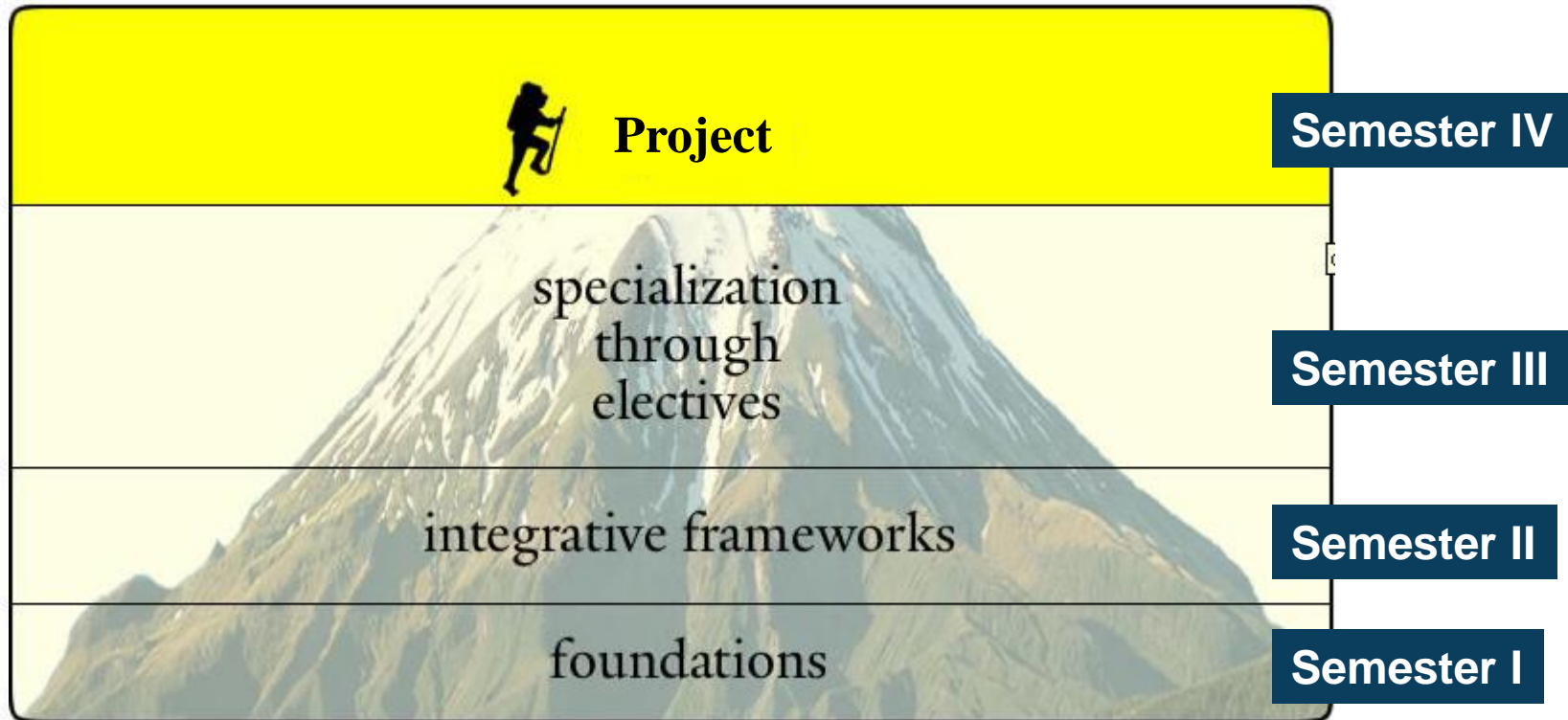


15 Credits	Project	Semester IV
15 Credits	specialization through electives	Semester III
17+2 Credits	integrative frameworks	Semester II
21 Credits	foundations	Semester I









Revised MSc Climate Science and Policy Program

The MSc in CSP program is spread across four semesters.

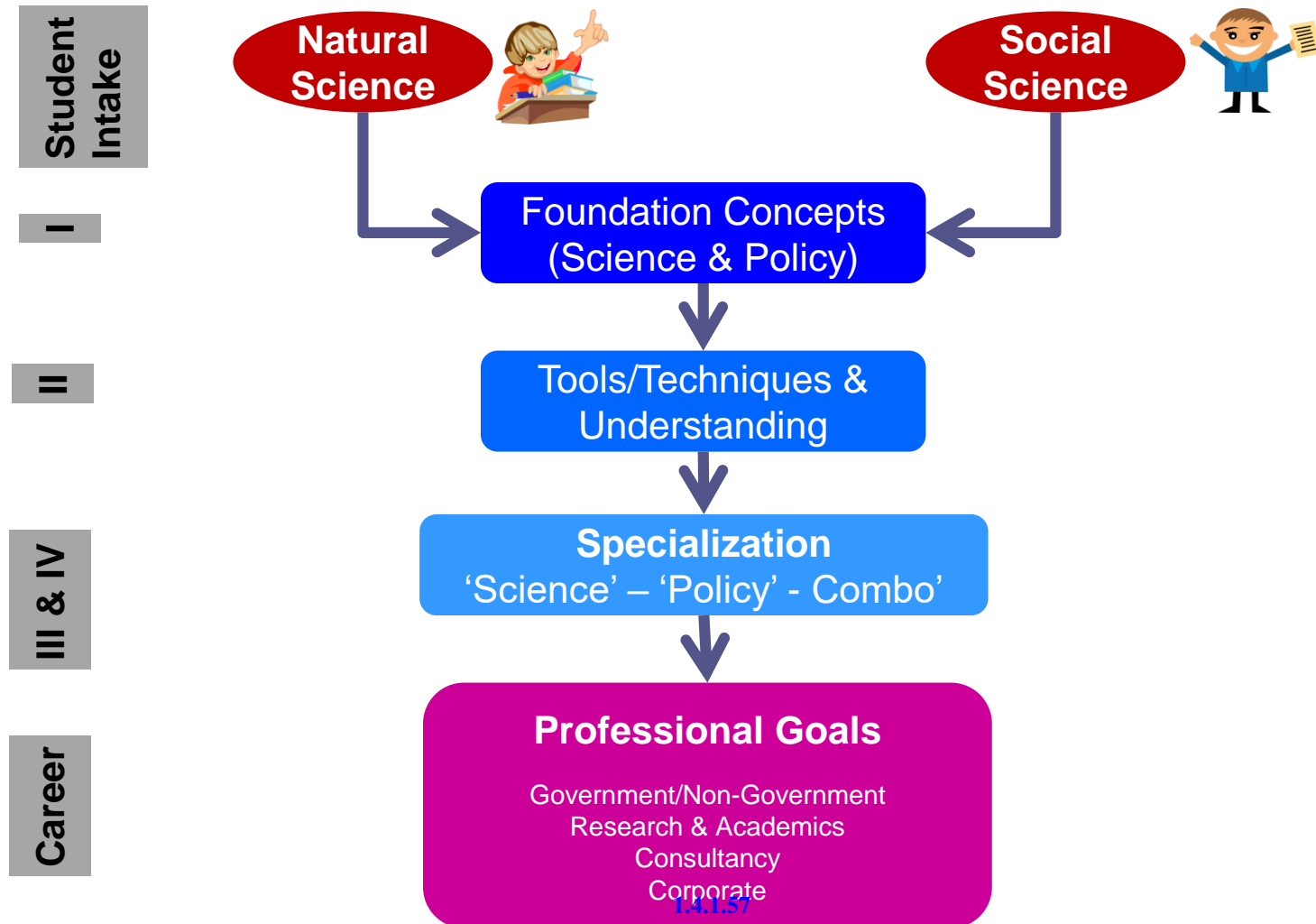
Semester I: Focus on building the foundation for students through an array of basic courses on science and social aspect of climate change

Semester II: Tools and techniques for understanding climate science and policy

Semester III: A deep understating of the science and policy to deal with impacts and response mechanisms by the society would be achieved through the electives

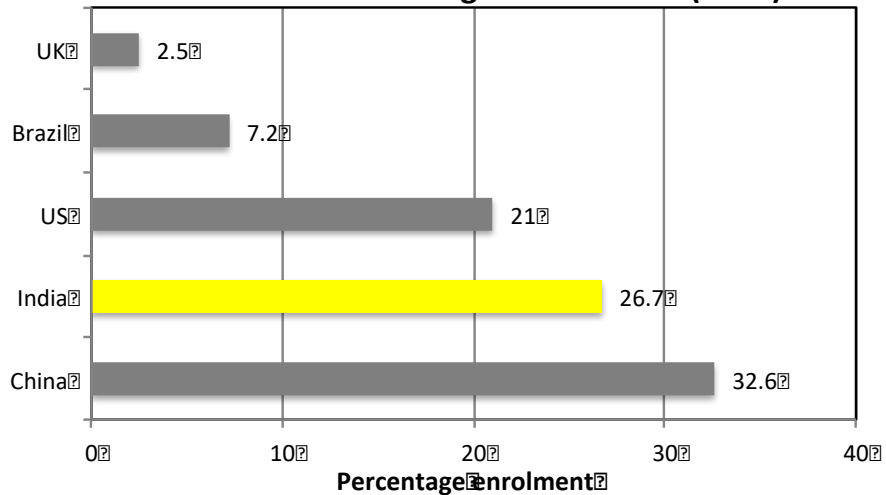
Semester IV: A major research project will help the students to apply the skillsets and knowledge gained in the first three semesters to apply it on field. 1.4.1.56

Flow of knowledge

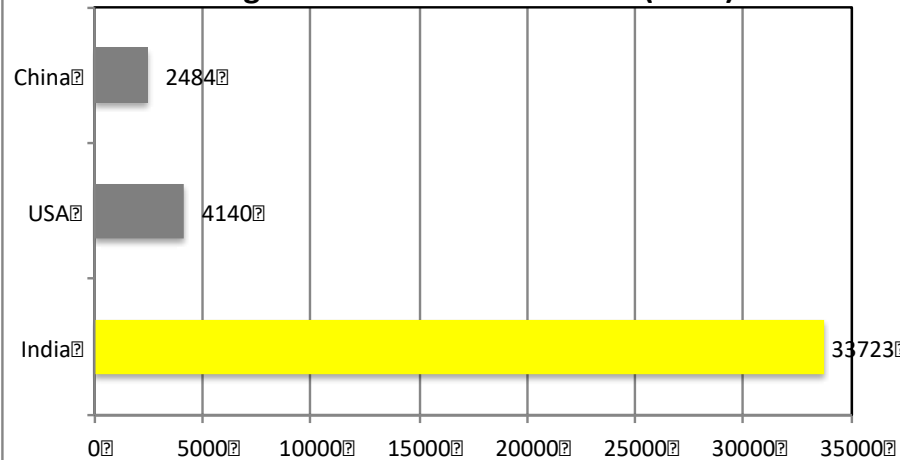


1.4.1.D.

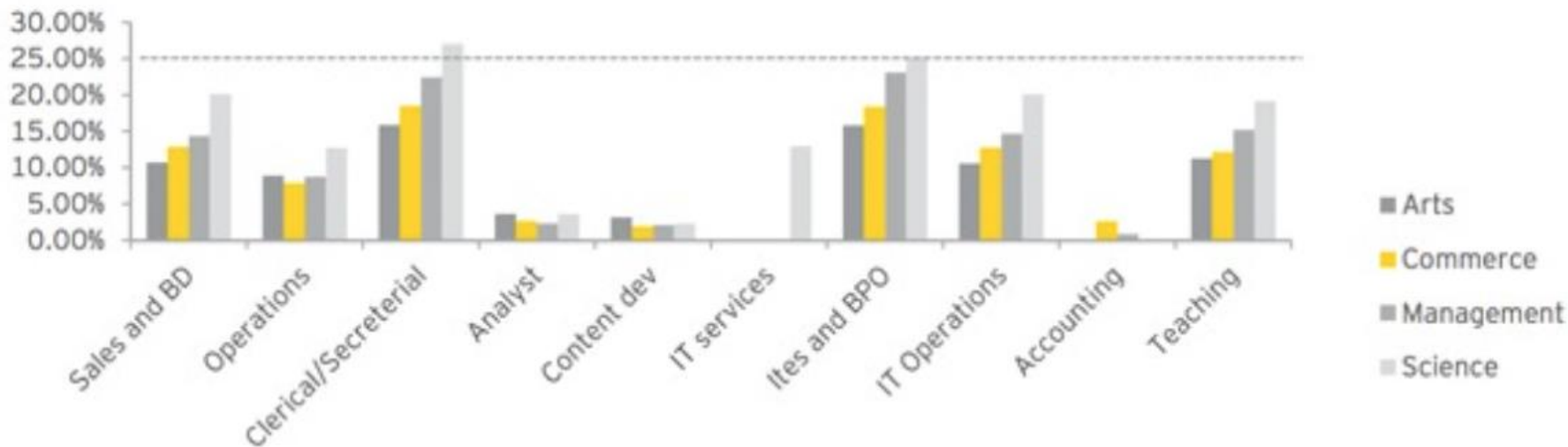
Student enrolment in higher education (2012)



No. of higher education institutions (2013)



Percentage of graduates considered employable (2012)



1.4.1.58

Ensuring Quality in Higher Education

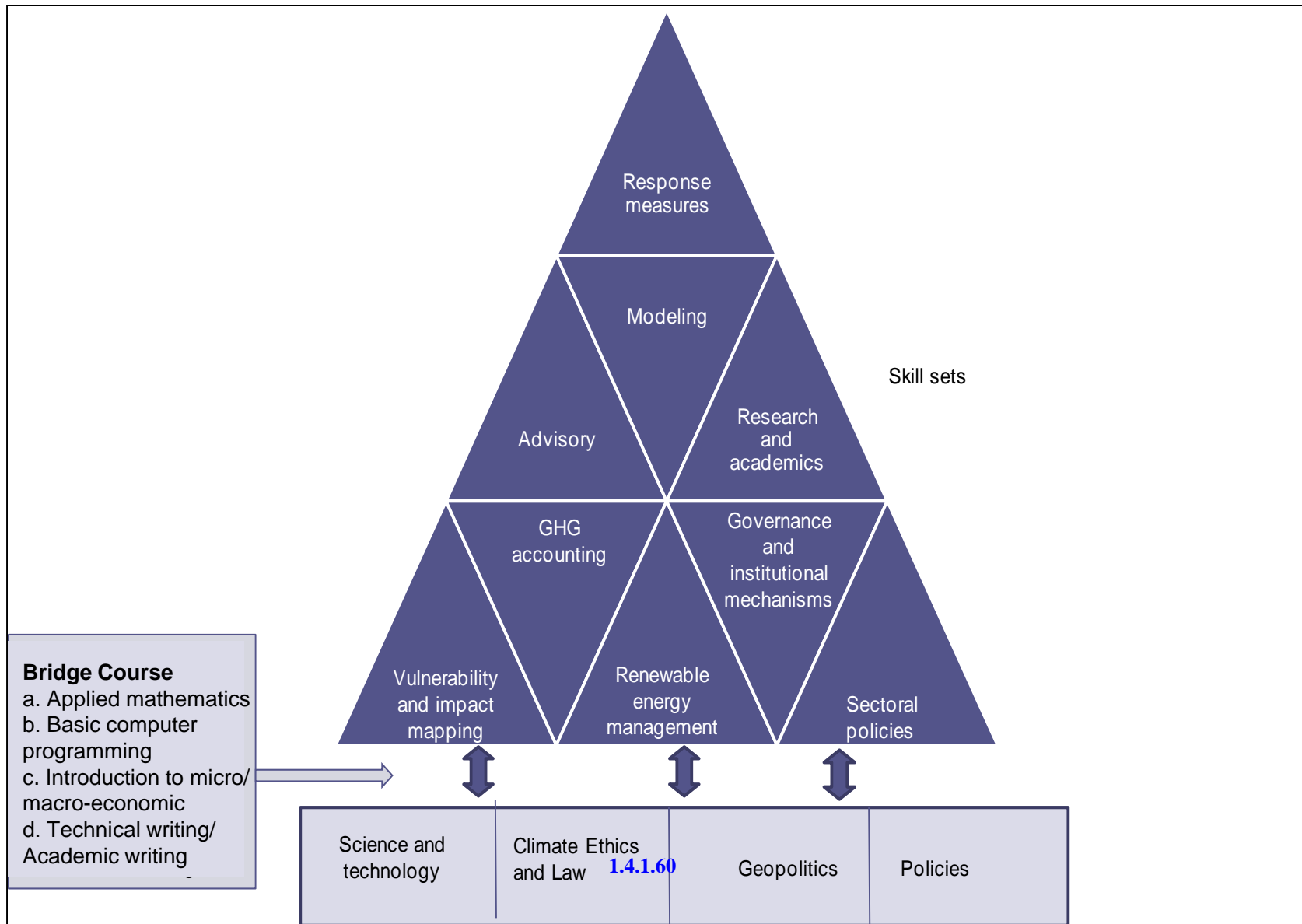
“Policy interventions have generally tended to focus on the Gross Enrolment Ratio (GER) in higher education, which is currently around 23% and sought to be increased, through the Rashtriya Uchchatar Shiksha Abhiyan (RUSA) to 30%.

..., less than 20% of those graduating from higher educational institutions are rated as immediately employable by industry.

...it is perhaps time to pay attention to a different type of GER – the Gross Employability Ratio of graduates”.

(7.1.26 National Policy on Education, 2016)

Structure of the programme showing subjects and skill-sets obtained through the courses



1.4.1.D. Skill sets gained after the completion of the programme

After the completion of this programme students will have following skills:

- ☐ Explain the workings of the climate systems and feedback mechanisms
- ☐ Use a variety of climate-related research and analysis methods
- ☐ Design appropriate methodologies for impact and vulnerability assessments
- ☐ Able to establish institutional arrangements for GHG accounting and inventory
- ☐ Able to assesses all relevant options (technological and policy relevant) for mitigating climate change
- ☐ Ability to assess climate-related problems in different sectors
- ☐ Apply climate-related knowledge to societal problem solving
- ☐ Communicate effectively with scientists and policymakers on the subject

1.4.1.D. Career prospects

Job Sectors \ Skill Sets	Decision making and planning	Modelling	Research and academics	Advisory	GHG accounting and inventory	Governance and institutional mechanisms	Sectoral policies	Renewable energy and management	Vulnerability and impact mapping
Government	Direct linkage	Secondary linkage	Direct linkage	Direct linkage	Direct linkage	Direct linkage	Direct linkage	Secondary linkage	Secondary linkage
NGO	Secondary linkage	Secondary linkage	Secondary linkage	Direct linkage	Secondary linkage	Secondary linkage	Direct linkage	Direct linkage	Direct linkage
Consultancy	Secondary linkage	Direct linkage	Secondary linkage	Direct linkage	Direct linkage	Secondary linkage	Direct linkage	Direct linkage	Direct linkage
ESCO*	Secondary linkage	Direct linkage	Secondary linkage	Secondary linkage	Secondary linkage	Secondary linkage	Secondary linkage	Direct linkage	Secondary linkage
Public health	Secondary linkage	Secondary linkage	Direct linkage	Secondary linkage	Secondary linkage	Secondary linkage	Direct linkage	Secondary linkage	Direct linkage
Research and Academics	Secondary linkage	Direct linkage	Direct linkage	Secondary linkage	Direct linkage	Secondary linkage	Direct linkage	Secondary linkage	Direct linkage
Development agencies	Secondary linkage	Direct linkage	Direct linkage	Direct linkage	Direct linkage	Secondary linkage	Direct linkage	Direct linkage	Direct linkage
Industries	Secondary linkage	Direct linkage	Secondary linkage	Secondary linkage	Direct linkage	Secondary linkage	Direct linkage	Direct linkage	Direct linkage
Direct linkage									
Secondary linkage									

Reviewed outline

First semester [21 credits]

Bridge courses- *Students who have not studied the below mentioned courses previously should take these bridge courses.*

- a. Applied mathematics (Optional Audit)
- b. Basic computer programming (Optional Audit)
- c. Basic course in Economics (Optional Audit)

Core Courses

Earth System Sciences	Credit (3)
Basics of Climate Science	Credit (3)
Environmental Law and Policy	Credit (3)
Energy: Science, Technology and Policy	Credit (2)
Impact of Climate Change	Credit (2)
Environmental Statistics	Credit (3)
Concept and Theories of Development	Credit (3)
Climate Lab	Credit (2)
Technical Writing/Academic Writing	Compulsory audit

1.4.1.63

Minor Project [2 credits]

Second Semester [17]

Core courses

- Introduction to uncertainty and risk analysis [3]
- Research methodology [2]

Electives [choose any 4 courses]

- Climate change mitigation [3]
- Climate change vulnerability and adaptation [3]
- Climate, ethics and law [3]
- Science and technology policy [3]
- Introduction to climate modeling [3]
- Multivariate data analysis [3]
- Spatiotemporal data analysis [3]
- Basic principles of geo-informatics [3]
- Economics of climate change [3]

Third Semester [15 credits]

Core course

- Seminar course [3]

Electives: *Choose any 4 courses. All are three credits each.*

Climate Science and Technology

GHG Accounting

Ecological Climatology

Energy Modelling and Auditing

Renewable Energy Technologies

Paleoclimatology

Atmospheric Processes

Satellite Meteorology

Advanced Geo-informatics

Climate Change and Disaster Risk

Reduction

Advances Climate Modelling

Climate Policy and Development

Institutions and Governance

Adaptation and Mitigation Policy

International Policy

Climate Finance

Scenario Modeling

Climate Change and Public Health

Geopolitics of Climate Change

Carbon Accounting and Reporting

Fourth Semester [15 credits]

Major project

Thank you

Universities

Climate variability
Climate change science
GIS, Satellite remote sensing and earth
system modelling
Global environment change
Atmospheric processes
Atmosphere & ocean
Energy policy

Organizations

Capacity building
Green technology
Traditional
ecological
knowledge
Technology

Economics

Renewable energy
Adaptation & resilience
Mitigation
Vulnerability
Sustainability

Sustainable business
Disaster management
Green growth
Climate finance (carbon
market, insurance, etc)

Green policy
Sustainability reporting
Carbon foot printing
Stakeholder management

Job

Questionnaire for need analysis of Master's Program on Climate Science and Policy

Name: _____

Date: _____

Organization: _____

Please add comments wherever you wish to.

1. Is your organization working on any areas of climate change? Yes/No. If yes, please specify
[Type an answer here]
2. Does your institution/ organization need people who can identify and generate projects related to climate change?
[Type an answer here]
3. Would you be inclined toward employing people who have a post graduate qualification in Climate science and policy?
[Type an answer here]
4. What kind of skill sets would you look for when you employ a staff for working on areas related to Climate change and policy in your organization?
 - a. Basic skill sets (Mandatory)
[Type an answer here]
 - b. Additional skillsets (desirable)
[Type an answer here]
5. What are the outputs/ deliverables you expect your employees working on climate change to deliver?
6. Do you think the existing MSc Climate Science and Policy Program at TERI University would be able to train workforce equipped with the skills required for working in an organization such as yours?
7. Are there any gaps in the existing MSc Climate Science and Policy Program at TERI University? Please specify.
8. Any other comments.

Kindly send this questionnaire back to us at the earliest possible

1.4.1.E. Need Survey for Masters Programme in Geoinformatics at TSAS

We would like to understand the current need of master level programs in Geoinformatics. TERI University offers MSc program in Geoinformatics which is under review to meet the current market need. At the same time we are planning to offer an MTech program in the field of Geoinformatics. In this regard, we would like to have your response to the following questions. Thank you so much for your time and input.

- Department of Natural Resources, TERI University.

* Required

- Govt Organization
- Academia
- Private Sector
- Alumni

1. At what level do you hire?
2. Which skillset defines the requirement of your organization?
3. Additional skill set which you may like to have in Geoinformatics professional for your organization?
4. What do you foresee as the upcoming trend and required skill set among Geoinformatics professionals?
5. What kind of skill sets would you expect from MSc Geoinformatics?

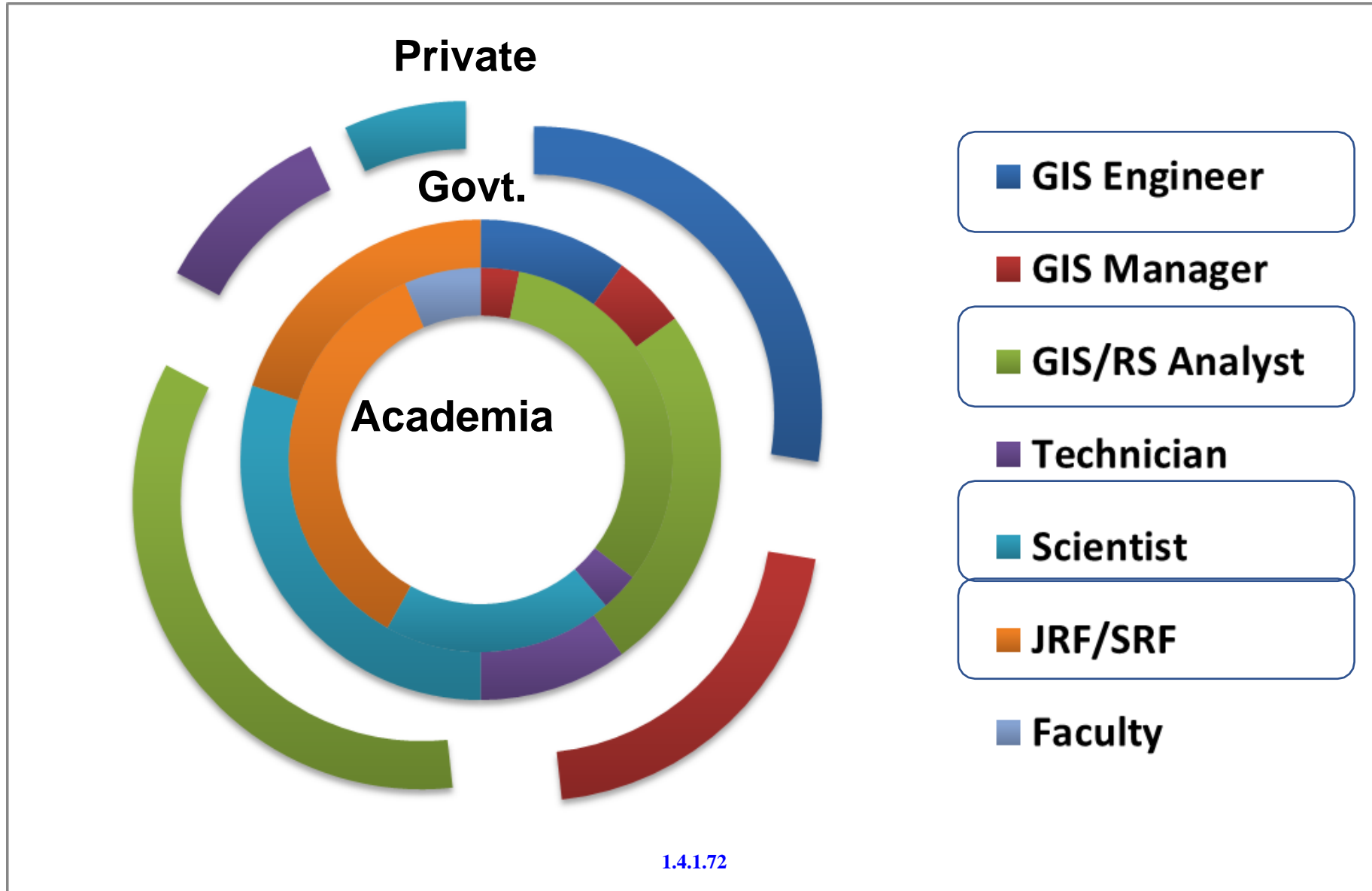
Responses

2

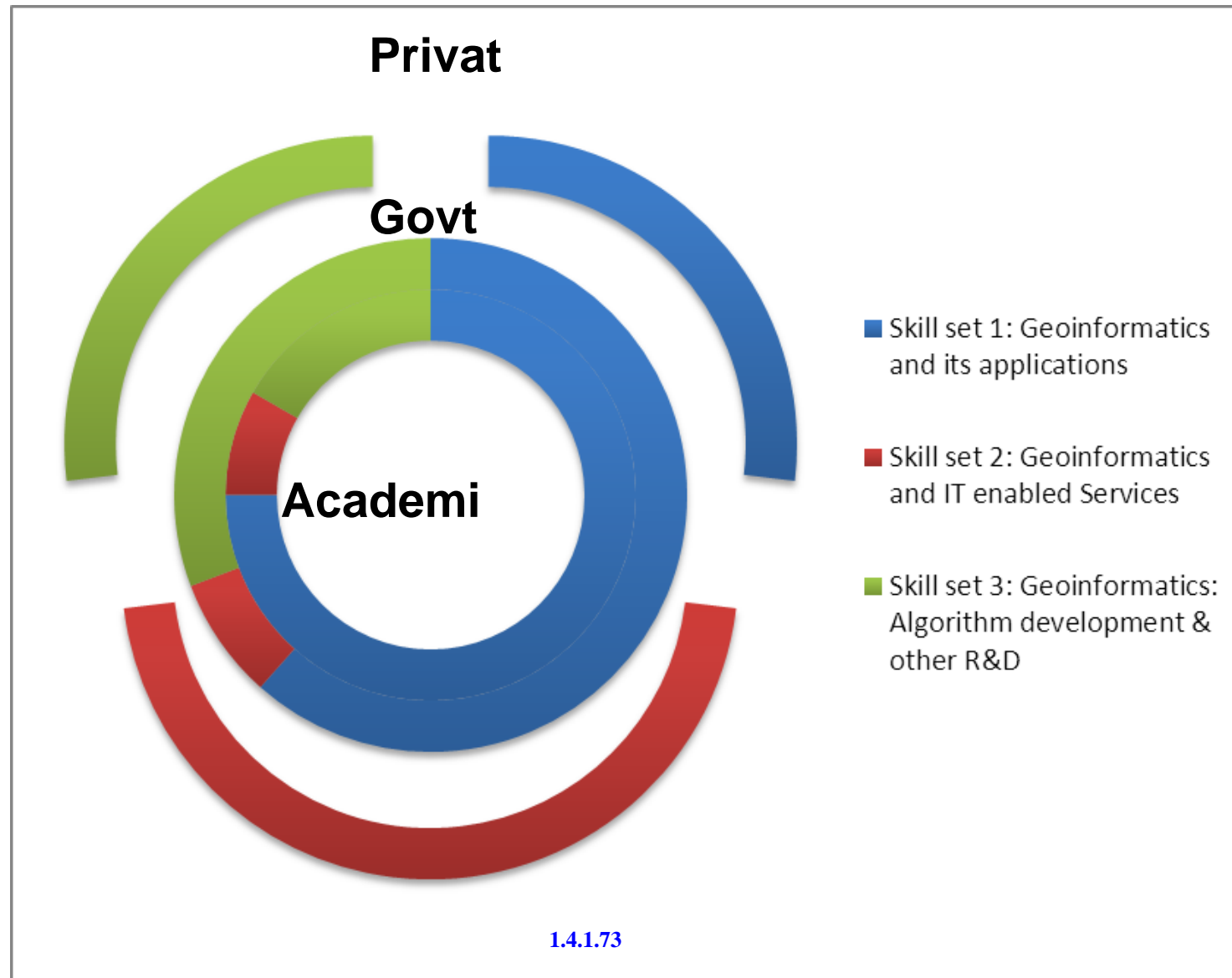
S. No.	Stakeholders	Questionnaire Sent	Responses Received	Main stakeholders (responses received)
1	Government*	38	10	NRSC, RRSC, CWC, NCAOR, SAC, ISRO
2	Private Sector*	70	17	ESRI-India, ESRI-USA, Rolta, Mapbox, UDRI, RMSI, CIPT
3	Academia*	44	24	IIT, IISc, JNU, IGNOU, Govind Ballav Pant University, University of Madras, Ajim Premji University, NIT, SNU, IIIT
Total		152	51	

* Includes Alumni

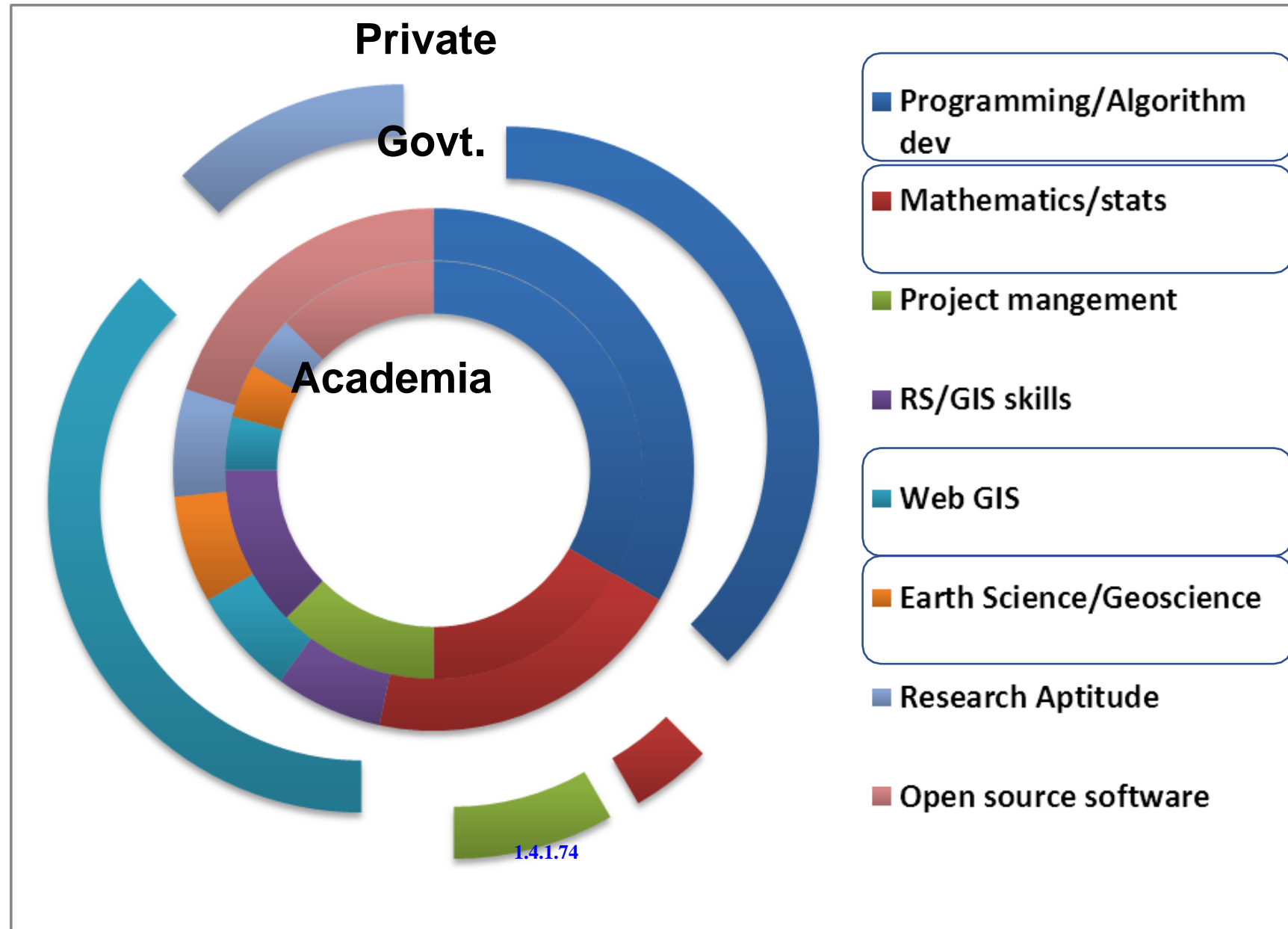
What level are you hiring?



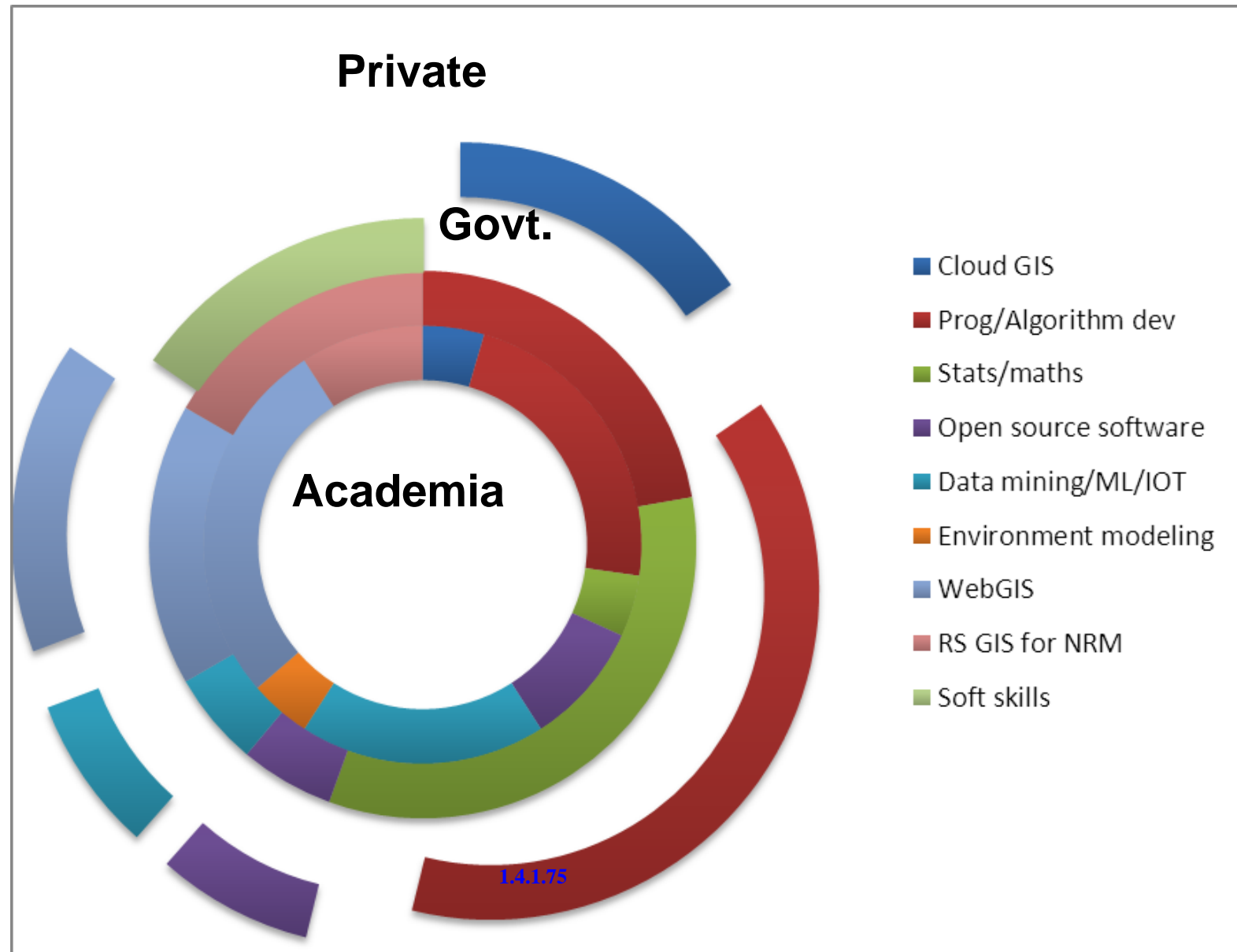
1.4.1.E. Which skill set clearly defines the requirement for your organization/Institute?



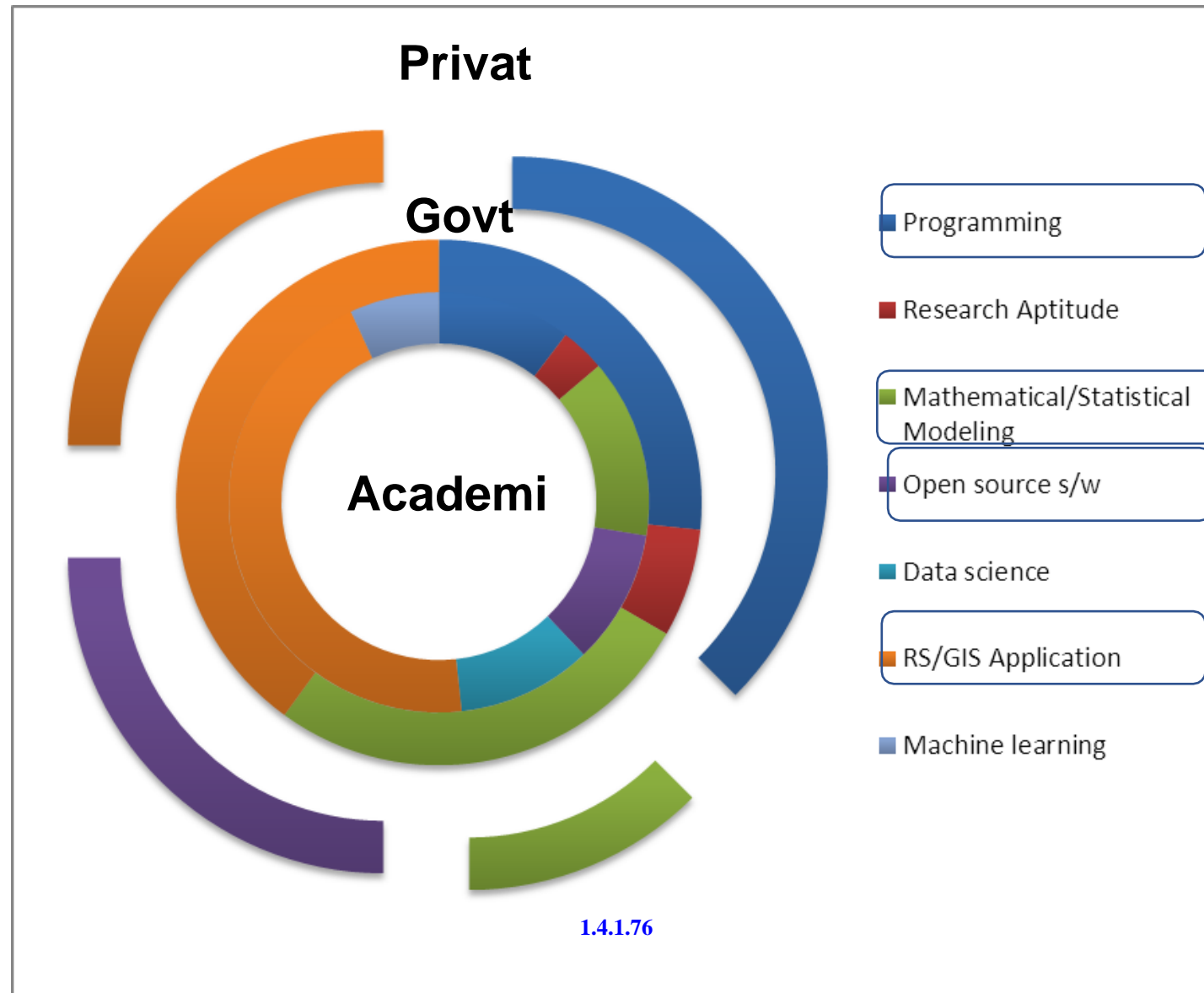
Additional skill sets you may expect from Geoinformatics professional for your organization



What do you foresee as the upcoming trend and required skill set among Geoinformatics professionals?



What kind of skill sets would you expect from MSc Geoinformatics



Feedback from current students

Current Programme Structure

- Need for latest programming language such as Python
- Programming courses need to be split over semesters
- Lot of topics covered under Maths are not used subsequently for other courses
- Courses need to be distributed equally across different semesters
- More elective courses

MSc Geoinformatics Programme Review

Academic Council Meeting

June 12, 2018



Need for Review

University Grants Commission (UGC)

- Recommended that curricula of all academic departments in Universities should be reviewed and revised at least once in every three years.

National Policy on Education

- Updating existing courses to match the current state-of-the-art in each discipline
- Common programmes to be adopted are:
 - a) Semester pattern of study
 - b) Continuous internal assessment
 - c) Credit/grading system
 - d) Student feedback
 - e) Self-appraisal by teachers

National Assessment and Accreditation Council (NAAC)

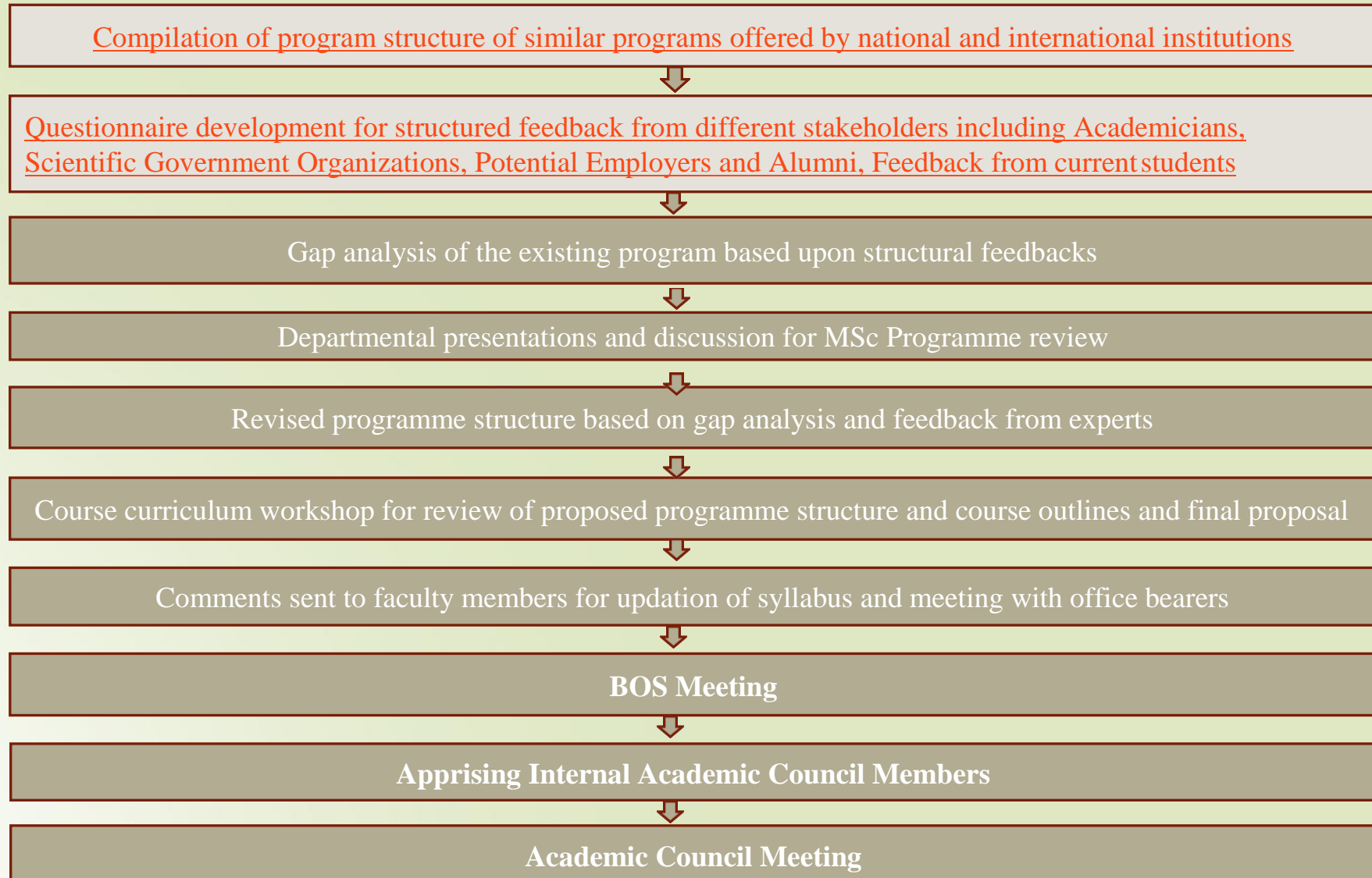
- The institution revises the curriculum at regular intervals and analyses the impact.
- Structured feedback from stakeholders and students is obtained for enriching the curriculum
- The institution draws on the feedback from experienced faculty.

Chronological Sequence

3

- | | |
|--|--|
| <input type="checkbox"/> May 2016 | Assignment of MSc Geoinformatics review |
| <input type="checkbox"/> May 2016 | Steps for MSc Geoinformatics review chalked out and circulated to the department |
| <input type="checkbox"/> June 2016 | Compilation of list of courses in different universities offering MSc Geoinformatics in India and abroad |
| <input type="checkbox"/> July – Aug 2016 | Questionnaire for gap analysis sent to different stakeholders and responses received |
| <input type="checkbox"/> Oct 2016 | Department level presentation |
| <input type="checkbox"/> Nov – Dec 2016 | Revisiting objectives and learning outcomes based on gap analysis |
| <input type="checkbox"/> Jan – Feb 2017 | Design of revised programme structure |
| <input type="checkbox"/> June – Jul 2017 | Revision of existing courses as per current state of art by course coordinators |
| <input type="checkbox"/> Sep – Oct 2017 | Review of revised programme structure by three subject experts |
| <input type="checkbox"/> Dec 2017 | Feedback from current students on existing courses |
| <input type="checkbox"/> Dec 2017 | Revision of programme structure and curriculum development workshop |
| <input type="checkbox"/> Jan 2018 | Revision in syllabus of individual courses |
| <input type="checkbox"/> Feb 2018 | Presentation in front of office bearers |
| <input type="checkbox"/> March 2018 | BOS Meeting |
| <input type="checkbox"/> May 2018 | Apprising Internal Academic Council Members |
| <input type="checkbox"/> June 2018 | Approval from Academic Council Meeting |

Review Process for MSc Programme



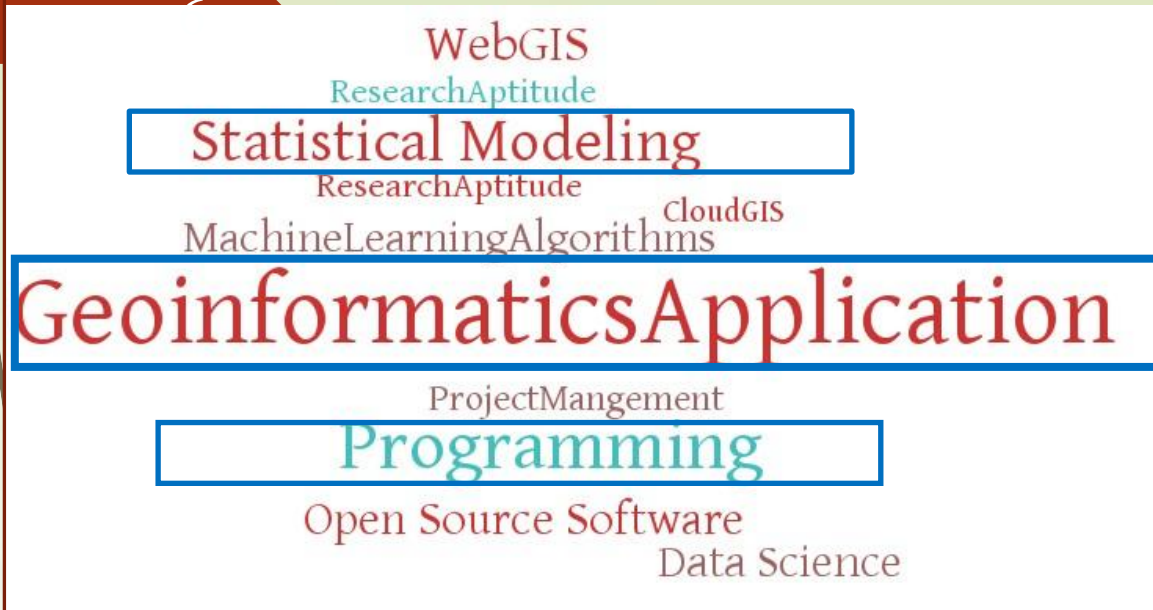
Basis for Proposed Changes in the Programme Structure

- ☐ Comparison with MSc Geoinformatics programme Structures offered at other national and international universities
- ☐ Structured feedback from different stakeholders: Academicians, Potential Employers from Private and Government Sector, alumni, current students
- ☐ Gaps Identified by National task force on Geospatial Education (MHRD)
- ☐ Experts Comments

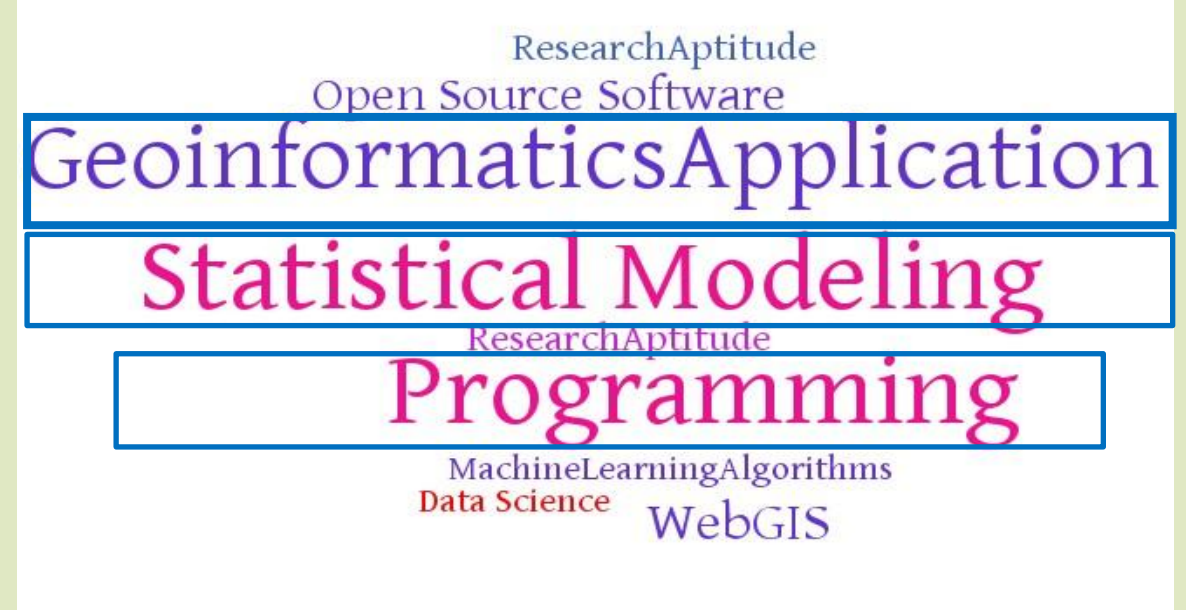
Outcome of Need Based Analysis

1.4.1.E.

Academia



Govt Sector



Private Sector



Major Gaps in Geospatial Industry (Source: MHRD, 2013)

7

Geospatial Technology	Leadership	Managerial Skill	Technical Skills	Consulting and Systems Analysis	Research/Modelling
Geographic Science	Low	Low	Low	Low	Low
Survey/Mapping	Low	Average	Very Good (Limited)	Average	Low
Geospatial database development	Low	Very Good	Very Good	Average	Average
GIS Applications & S/W development	Low	Average	Average	Average	Low
Solution architecture / deployment	Average	Average	Good	Average	Low

Market Demand vs Shortcoming of the Programme at TERI SAS

Separate course on Geoinformatics Application In depth
Programming

Statistical Modeling Open

Source Software

Machine Learning Algorithm

Data Science

WebGIS

CloudGIS

Research Aptitude

Project Management

Review of programme structure by experts

Experts

1. Prof. J. K. Garg, Indraprastha University
2. Prof. C. Jeganathan, BIT Mesra
3. Prof. P. K. Joshi, JNU
4. Dr. S. S. Ray, MNCFC
5. Dr. B. Deshmukh, IGNOU
6. Dr. Shalini Singh, CDAC
7. Dr. Parul Srivastava, IORA International
8. Mr. Abhishek Sindal ESRI India
9. Dr. P L N Raju, Director, NESAC, ISRO

Overall Comments

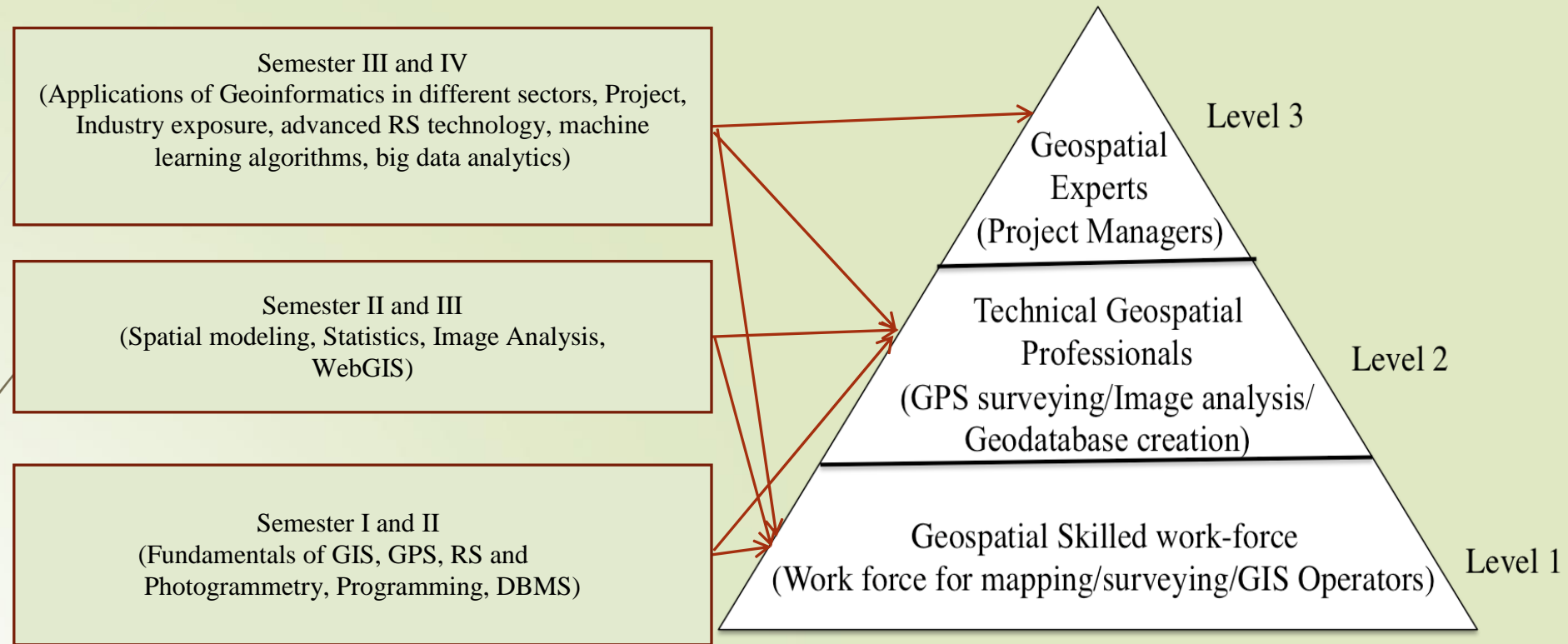
1. Greater emphasis on remote sensing and GIS applications.
1. Latest trend such as big data analytics, multi-temporal, data mining, cloud computing, Programming should be part of USP.
2. Break up of credits in theory and lab. 4 credit course =3+1.
3. Equal credit load across different semesters
4. Emphasis on open source software
5. Overlap between the courses should be addressed

Major upscaling in revised MSc Geoinformatics

☐ Six New Courses:

- ☐ Semester II: Programming in Geoinformatics (Core) : Focus on Python
- ☐ Semester III: Geoinformatics Application for Land Resources (core)
- ☐ Semester III: Geoinformatics Application for Water Resources (Core)
- ☐ Semester III: Geoinformatics Application for Atmosphere (Core)
- ☐ Semester III: Geocomputation (Elective): Advanced Classification Techniques/Machine learning algorithms, Big data analytics, Spatial Simulation

Skillset generated matches country's expectation



MHRD 2013

Proposed Programme Structure (70 Credits)

Semester I (15 Credits) (Core)	Semester II (19 credits) (Core)	Semester III (19 Credits) (Core/Elective)
Principles of Cartography (3)	Photogrammetry (3)	Advances in Remote Sensing (4) (core)
Principles of Remote sensing (3)	Multivariate Data Analysis (3)	Advances in GIS and current trend (4) (Core)
Principles of GIS and GNSS (4)	Spatial Data Modelling and its applications (4)	Application of Geoinformatics for Land Resources (3) (Core)
Environmental Statistics (3)	Digital Image Processing and information extraction (4)	Application of Geoinformatics for Water Resources (3) (Core)
Fundamentals of Computers and Programming (2)	Programming in Geoinformatics (3)	Application of Geoinformatics for Atmosphere (3) (Core)
Applied Mathematics* (3) (Audit)	Law and Policy for GIS and Remote sensing (2)	Geocomputation (3) (Elective)
Technical Writing (2) (Audit)	Project Management (3) (Audit)	Electives from Other Department
Fundamentals of Physics** (2) (Audit)	Research methodology and thesis writing (2) (Audit)	

Summer Minor Project (2 Credits)

Semester IV Major Project (15 Credits)

* Required for students who did not study Mathematics at 10+2 level

** Required for students who did not study Physics at 10+2 level

M.Sc Economics Feedback responses 2017-18 and 2020-21

Minutes of 43rd Academic Council

Item No 4. To consider and approve the revision in the structure and content of MSc (Economics) Programme

Revised structure and content of the MSc (Economics) programme was approved with the following suggested changes:

1. Revision in the name of the following courses:
 - a. Economics of Natural Resources
 - b. Economics of the Environment
2. Data on feedback to be Minutes and Archived

Action taken:

1. The name of the courses has been changed to the following:
 - a. Natural Resource Economics
 - b. Environmental Economics

The final approved programme structure is as follows:

Restructured Outline of MSc Economics programme as approved by the Academic Council in its 43 rd Meeting		
Year/Semester	Courses	Credits
First year		32
1st Semester	4 Core courses of 4 credits	16
	Probability and Statistics	4
	Macroeconomics	4
	Microeconomics	4
	Introduction to Mathematical Methods for Economics	4
2nd Semester	4 Core courses of 4 credits	16
	Environment and Economic Development	4
	Growth Economics	4
	Development Economics	4
	Econometrics	4
Second year		40
3rd Semester	3 Core courses of 4 credits + Elective courses of 8 credits	20
	Core 1: Methods of Research in Economics	4
	Core 2: Environmental Economics	4
	Core 3: Natural Resource Economics	4
	Elective courses from those offered in the MSc Economics programme or open electives*	8
4th Semester	Master's Thesis	20

2. A report on feedback on the iterative processes followed over a considerable length of time is enclosed as Annexure 1

2017-18

Annexure 1

1. The faculty members teaching in the programme have received feedbacks from students on programme structure and contents, both informally as well as through the formal and structured feedback they submit in every course studied. The following points emerge from these feedbacks:

- Credit load be reduced and made at par with competing MSc Economics programmes offered locally
- No taught course be studied in the fourth semester as it will enable the students to consider carrying out fieldwork outside NCT of Delhi
- Increasing credit load of optional courses from 3 to 4 for the intensity of the engagement.
- Making Master's thesis optional, with a choice to undertake coursework of equivalent credit load.
- Reduction of Environment/Natural Resource content in the programme

2. In response to these feedbacks, Master's Programme Executive Committee of MSc Economics had reviewed all courses internally through meetings held between October 2017 to April 2018. Several overlaps were identified in the process. A revised structure was placed before the Board of Studies of the Department in its meeting held on 25th April, 2018 (below).

Outline:

			Credits
Semester 1	Microeconomics 1 (Core)		4
	Macro economics (Core)		4
	Constrained optimization and linear Algebra (Core)		4
	Quantitative methods (Core)		4
Semester 2	Microeconomics 2 (Core)		4
	Economic development in India (Core)		4
	Econometrics (Core)		4
	Environment and economic development (Core)		4
Semester 3	Economics of Environment (Core/Elective)*		4
	Economics of Natural Resources (Core/Elective)*		4
	Indian agriculture in a global setting (Elective)		4
	Research Methodology (Core)		4
	Advanced econometrics (Elective)		4
	Time series and regression analysis (Elective)		4
Semester 4	Track Thesis	Track Coursework	4
	Thesis (16 credits)	Ecological Economics (Elective)	4
		Labour Economics (Elective)	4
		Trade and the environment (Elective)	4
		Economics of health (Elective)	4

*Students must choose at least one of the two courses marked with (Core/Elective).

Salient features:

- Instead of five core courses at present, for the first two semesters each, the students will be required to study four core courses.

1.4.1.F.

2. In the third semester, students would compulsorily take the course on Research Methodology, choose at least one of the courses between Economics of Environment and Economics of Natural Resources and fulfil the remaining credit requirements from other (elective) courses.
3. In the fourth semester, a student would be able to exercise an option between a research track and a coursework track subject to fulfilling the requirements of the Research Methodology with a satisfactory grade (not below B). Those opting for the latter will be required to write and defend a master's thesis in their fourth semester. This component will be worth 16 credits alone. Such students would not be required to do any further coursework.
4. Students on the coursework track (either by choice or for not fulfilling the eligibility criterion) would undertake coursework worth 16 credits in the fourth semester.
5. Each of the courses offered in the Economics programme would be worth 4 credits each, excluding the final thesis component which would be worth 16 credits.
6. Student desirous to study elective courses offered in other programmes may continue to do so, as in the present, subject to prior approval of the Programme Coordinator.
7. All elective courses offered in the third and fourth semesters would have a term paper and an oral presentation component for evaluation, in order to ensure rigour and originality of thought.

3. The BoS had suggested a few changes, most notably for making Research methodology compulsory for all. The modified structure was placed before the Academic Council in its 43rd meeting held on 12th June 2018 for an in principle approval which was kindly granted, alongwith extending a few suggestions:

1. Economics of Environment and Economics of Natural Resources must continue as compulsory courses
2. Master's Thesis must be mandatory, as it is one of core strengths of the programme.
3. Environment components is the other strength which needs to be balanced against the structure and credit load of programmes with which this programme is compared with
4. Development Economics needs to be offered, and Growth Economics—Indian economy components are to be incorporated in both these courses.

5. The hitherto modified structure was shared with the academia, students, alumni and recruiters. Questions were as follows

Peers—fellow academicians

1. Do you think whether the new course outline satisfy the objectives better than the old one?
2. Do you find any gap in the programme which are covered by the core courses in other programmes?
3. Do you find the course 'load' that includes extent of readings, number of modules, assessment methods and other such is appropriate for an MSc Economics programme?
4. While our track record for the last three years includes cent percent placement, do you think the trend is likely to continue?
5. While many of our students have opted for higher studies, do you think the new structure will continue to imbibe research aptitude among the students?

Alumni:

1. Did you experience any shortcoming in the previous programme structure and contents to enable you to prepare for the kind of works that you wanted to pursue?
2. Do you find the new programme structure and content fills those gaps?

Existing students of second year:

1. Did you experience any shortcoming in the previous programme structure and contents to enable you to prepare for the kind of works that you wanted to pursue?
2. Do you find the new programme structure and content fills those gaps?

Employer:

1. Did you find our students to fulfill most of the qualities that you would like a future employee of yours to possess?
2. Do you think the new programme structure and contents can help in imbibing most of the qualities that you would like a future employee of yours to possess?

1.4.1.F.

Salient features of responses:

Alumni	<ol style="list-style-type: none">1. Positive response on more number of courses offered in the 3rd and 4th semester2. Reservations against eligibility criteria for writing the Thesis
Recruiter	<ol style="list-style-type: none">1. While past students whom I had recruited were good enough, the proposed structure will make it even better in instilling more skills
Students	<ol style="list-style-type: none">1. Thesis optional is fine.2. Less subjects per semester means we can focus on each subject more. We had 5, it felt like rushing, could not give each subject the time it deserved t3. Also, now growth economics and development economics are being taught which is a good thing, it was missing till now.4. Thesis is of no use to a person whose main aim is to go in the corporate sector. There were limited number of electives. The new system addresses many shortcomings but it would be really helpful if third semester students are also given the freedom as proposed in the new system (of choosing only one course from Environmental Economics and Natural Resource economics.5. Too much research oriented with five subjects per semester is actually difficult.6. I want to go in the corporate field whereas the entire programme is based on research field.7. Instead of teaching STATA in two semesters in the first year intro of SAS, R or Python should be there as these are known to others and some basic knowledge of these are demanded in various job profiles after MSc.8. I was not able to really grasp things because a lot of courses were being taught. A reduction from 5 core courses to 4 in the first year is thus more appropriate.9. The main issue is the compulsory thesis writing in the fourth semester. I would have preferred it if we were given an option between writing a thesis or taking exams in the last semester (norm that is followed in colleges abroad)10. There were a lot of overlappings in the content of the subjects that were taught.11. Restricted number of elective subjects.12. More focus should be given on software like R, SPSS, SAS which is widely used in research and corporate sector13. I like the overall curriculum but the only shortcoming is that choice of subjects was not as vast as it could have been for the first two semesters for our batch. Since my interest lies in research, therefore, I appreciate the structure, design and efforts that faculty put for our batch. But for students whose interest lie in other aspects, it is a bit difficult for them to dedicate themselves completely to research. The new structure is already filling that gap.14. Restricted number of elective subjects.

5. Subsequently a number of changes were made in the structure. It was placed before the Academic Council in its 43rd meeting held on 12th June, 2018. As decided, another round of Feedback was sought from a variety of stakeholders through a structured questionnaire. A report follows.

1.4.1.F.

Stakeholders	Responses
64 Peers- Fellow academicians	12 peers till 5 th Nov, 2018 have responded. The full list with institute affiliation have been shared in the Appendix A
34 Recruiters	3 recruiters have responded while others have not responded. The full list have been shared in the Appendix B
First and second year students	39 students have responded till 5 th Nov, 2018.
All Alumni	2 alumni's have responded.

Comments received from the various stakeholders are as follows:-

Peers	<ol style="list-style-type: none"> 1. The new course structure this revised course outline that seems to be more comprehensive, well structured and sequenced, appropriate spread of loads, and addressed number of ambiguities existing in the previous course structure. 2. Limiting the number of core courses to 4 in the first two semester is a welcome step. It is supposed to reduce the unnecessary burden on the students and helps in learning retention 3. The two proposed courses of Economics of Environment and Environment and Economics of Natural Resources in the 3rd semester, as they seem to me more condensed and focused. 4. The introduction of Growth theory (which is similar in the line of offering Macro II in many of the standard University) as a core course in the 2nd semester but a standard Masters course which also offers a Micro II (covering mainly Information Economics, Theory of Externalities and Social choice), is somehow missing in the present structure. I am therefore having some concern as your Master's programme is offered as a specialization in Environment and Resources Economics, the topics which are usually covered in Micro II are of critical relevance in handling various issues of Environmental and Natural resources. 5. Given the importance of game theory in environmental economics in general and economics of climate change in particular, sufficient amount of game theory should be discussed in microeconomics and in Introduction to Mathematical Methods. 6. Though the list of electives is exhaustive, importance can be given on a course on Macroeconomics of the environmental or Environmental macroeconomics instead of Advanced macroeconomics since this program is focusing on Environmental Economics. 7. Suggestion to introduce "Practice of Environmental Policy", as opposed to theory of environmental policy as a tool. Since the focus is on environment, both theory as well as making of policy are important. 8. Masters thesis is mandatory. in the fourth semester, students should concentrate only on Master's thesis and no elective should be given at that stage. 9. Further introduction of a core course - Methods of Research in Economics in the 3rd semester, is an important modification with a purpose of orientating the students towards Master's dissertation in the end semester.
Alumni	<ol style="list-style-type: none"> 1. It is good to see more courses being offered in the 3rd and 4th semester of the new

1.4.1.F.

	structure
Recruiter	<ol style="list-style-type: none"> 1. The new structure is better. 2. The new course structure covers most of the topics related to economics of environment. But these days most of the organizations are looking for Applied Statistics/Econometrics, course on applied econometrics will be helpful for students. A dedicated course on Valuation of Ecosystem Services would be helpful to the students. A topic of Climate Change can be included along with Energy Economics 3. There should be a course in Indian Economy which should be updated with new literature and concepts. It should be a dynamic study
Students	<ol style="list-style-type: none"> 1. It's nice that thesis is optional now. People should be given an option. Also, less subjects per semester means we can focus on each subject more. We had 5, it felt like rushing, could not give each subject the time it deserved. 2. Growth economics and development economics are being taught which a good thing is, it was missing till now. 3. Masters thesis to be made optional. 4. The new system addresses many shortcomings but it would be really helpful if third semester students are also given the freedom as proposed in the new system. 5. The entire programme is research based rather than targeting the corporate sector. 6. Highly appreciate if the subject options which are newly added as part of the curriculum are also given to students who are already pursuing the course and will start 2nd year post summer break, as options for electives to be taken up in 3rd and 4th semester. 7. Lack of advanced macroeconomic courses 8. Relatively less number of electives to choose from. More and better courses should be included in the curriculum that would help cater to students' interest. 9. Two econometrics courses should not be offered in the same semester since it becomes a slightly confusing exercise

List of Appendices

Appendix A

Communicated list of Peers:

1. Prof Gopal Kadekodi, CMDR Dharwad, email: gkkadekodi@gmail.com
2. Dr Bibhu Prasad Nayak, TISS, Hyderabad, email: - bibhuprasadnayak@gmail.com
3. Prof K Narayanan, Department of Humanities and Social sciences, IIT Mumbai, Email: knn.iitb@gmail.com
4. Dr Anamika Barua, Department of Humanities and Social sciences, IIT Guwahati- Email: anamika.barua@gmail.com
5. Dr Sabuj Mandal, Department of Humanities and Social Sciences, IIT Madras, email:sabujecon@gmail.com
6. Dr Santadas Ghosh, Department of Economics, Visva Bhrati, Email: - santadas_ghosh@yahoo.co.in
7. Prof Pranab Mukhopadhyay, Department of Economics, Goa University, Email: pm@unigoa.ac.in
8. Dr L Venkatachalam, MIDS Chennai, Email: venkatmids@gmail.com
9. Prof Indira Devi, Kerala Agricultural University, Email: induananth@gmail.com
10. Prof V. R Muraleedharan, Department of Humanities and Social Sciences, IIT Chennai, Email:- vrm@iitm.ac.in
11. Prof Rabindra Nath Bhattacharyya, Jadavpur University, Email: rnbeco@gmail.com
12. Prof Soumananda Dinda, Department of Economics, Burdwan University, Email: - sdinda@gmail.com
13. Prof Amalendu Jyotishi, Amrita School of Business, Email: amalendu_jyotishi@blr.amrita.edu
14. Prof K.S Kavikumar, Madras School of Economics. Email: kavi@mse.ac.in
15. Dr Bhagirath Behara, Department of Humanities and Social Sciences, IIT Kharagpur, Email:bhagirath@hss.iitkgp.ernet.in
16. Dr Zakir Husain, Department of Humanities and Social Sciences, IIT Kharagpur, Email:dzhusain@gmail.com
17. Dr Mousumi Datta, Department of Economics, Presidency University, Email:dmousumi1970@gmail.com
18. Dr Indrani Roy Chowdhury, CSRD, JNU. Email: indranirc1@gmail.com
19. Dr Sunil Nautiyal , ISEC Bangalore, Email: sunil@isec.ac.in
20. Dr Balasubramanian, ISEC Bangalore, Email: balasubramanian@isec.ac.in
21. Dr Kakali Mukhopadhyay, Gokhale Institute of Economics and Polictics, Email: kakali@gipe.ac.in
22. Dr Chandra Sekhar Bahinipati, Department of Humanities and Social Sciences, IIT Tirupati. Email: chandrasekharbahinipati@gmail.com
23. Prof Sidhartha Mitra , Department of Economics, Jadavpur University, Email:smitra@economics.jdvu.ac.in
24. Prof Jugaratan Barman, Department of Economics, Jadavpur University, Email: jbarman@economics.jdvu.ac.in
25. Prof Kausik Gupta, Department of Economics, University of Calcutta, Email:kausik2k1@gmail.com
26. Prof Sarbajit Chaudhuri, Department of Economics , University of Kolkata, Email:chaudhurisarbajit@gmail.com
27. Dr Prasenjit Sarkhel, Department of Economics, University of Kalyani, Email:prasenjitsarkhel@gmail.com
28. Dr Tapas Sarangi, Director, Institute of Applied Manpower Research, Email: sarangi.tapas@gmail.com
29. Dr Anup Bhandari, Department of Humanities and Social Sciences, IIT Madras, Email: anup@iitm.ac.in
30. Prof Anil Gupta, IIM Ahmedabad, Email: anilg@iimahd.ernet.in,
31. Prof KV Raju, ISEC Bangalore
32. Prof Sudarshan Iyengar, Gujrat Vidyapith, Email:sudarshan54@gmail.com,
33. Prof Mrutyunjaya Mishra, BHU, Email: m_mishra_99@yahoo.com,
34. Prof Dinesh Marothia, National Institute of Ecology,Email: dkmarothia@gmail.com,

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35. Dr N.B Singh, NIT Silchar, Email:nbsingh.597@gmail.com,
36. Dr A. J James, IMaCS,Email: ajjames2005@gmail.com,
37. Prof Biswanath Goldar, IEG, Email: goldarbng@rediffmail.com,
38. Dr Santosh K. Sahu, IIT Madra, Email: santoshkusahu@gmail.com>,
39. Prof Amitava Mitra, Rajiv Gandhi University, Email:amitraau@rediffmail.com,
40. Dr Arunadoy Saha, Tripura University, Email: fac@triucc.ren.nic.in,
41. Prof Rashmi Agarwal, University of Delhi, Email:Rashmiagrawal_mbe@yahoo.com,
42. Dr P.G Marvania, Saurashtra University,Email: pmarvania@yahoo.com,
43. Prof a Damodaran, , Indian Institue of Plantation Mnagement, Email: Ad_iipm@vsnl.net,
44. Dr Kamal Roy, Katwa College, Email:Kamal420ray@yahoo.co.in,
45. Dr Biswajit Ray, University of Calcutta, email: biswajitraycu@gmail.com>,
46. Dr Nehal Farooque, G.P Pant Institute of Himalayan Studies, Email: nafarooquee@ignou.ac.in,
47. Dr G. Negi, G.P Pant Institute Emil: gcsnegi@yahoo.co.in,
48. Dr Indrila Guha, Basanti Devi college, email: indrilaguha@hotmail.com,
49. Dr Nilanjan Ghosh, ORF, email:nilanjan.ghosh@gmail.com,
50. Dr Vandana Upadhyay, Rajiv Gandhi University, Email:uvandanaa@yahoo.co.in,Vas_oo@yahoo.com,
51. Prof Runa Sarkar, IIM Kolkata, email: runa.sarkar@gmail.com,
52. Prof Madhushree Sekhar, TISSmadhusekher@gmail.com,
53. Parthasarathi Mondal, TISS, Email: pmondal@tiss.edu,
54. Prof B.V Chinnappa Reddy, University of Agricultural sciences, Bangalore, email:bvchinnappareddy@gmail.com,
55. Dr Prajna Paramita Misra University of Hyderabad, email: prajnasujit@gmail.com,
56. Dr Narendra Dalei, University of Petroleum and Energy Studies, email: nndalei@gmail.com,
57. Dr Shyamasree Dasgupta, email: shyamasree.dasgupta@gmail.com>,
58. Dr Lavanya, BITS Pilani, lavanya@hyderabad.bits-pilani.ac.in,
59. Dr V Saravanakumar, email:sharanu2K@gmail.com,
60. D Utpal Kumar De, North Eastern Hill University, email: utpalkde@gmail.com,
61. Dr Poulomi Roy, Jadavpur University, email: poulomi.roy@gmail.com
62. Prof U Sankar, Madras school of economics, email: usankar36@gmail.com
63. Prof P.K Joshi, IFPRI, Email: p.joshi@cgiar.org
64. Prof Ramprasad Sengupta , NIPFP, Email: rps0302@gmail.com

1.4.1.F.

Appendix B

Communicated list of Recruiters

Organisation Name	Contact Person	Email id
Center for science and environment (CSE)	Mr. Digvijay Singh Bisht	digvijay@cseindia.org
IL&FS	Mr Harsha Meenawat	Harsha.Meenawat@ilfsindia.com
IL&FS	Ms Sonali Chowdhry	Sonali.Chowdhry@ilfsindia.com
Infrastructure Leasing and Financial Services Limited	Ms Bhawna Tyagi	bhawna.tyagi@ilfsindia.com
MSME Foundation	Mr Mukesh Gulati	mukesh@msmefoundation.org
India Development Foundation	Mr. Arijit Das	adas@idfresearch.org
Equifin United Technologies Pvt Ltd	Mr Naveen Gupta	naveen.k.gupta@hotmail.com
Insight Alpha	Mr Saurabh Chaudhary	saurabh@insightalpha.com
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Alumni Feedback Responses

Name	In your opinion, was there any shortcoming in the programme structure and contents that you had pursued to enable a M.Sc. Economics passout to prepare for the kind of engagements that you wanted to pursue?	In case, yes, what were they?	Do you find the new programme structure and content fills those gaps?	What changes you would like to propose to the new programme structure and its contents to ensure that it fulfils the requirements of maximum number of students to enable them to pursue their chosen field or area of engagements at the end of programme?	To fulfill these requirements, do you recommend Masters Thesis being made non-compulsory, and a choice is given to pursue additional courses of equivalent credit instead in the fourth semester? Give reasons
Promit Mookherjee	Maybe.	Not from a learning point of view but it would have been great if we had been given more exposure to the kind of future career paths a graduate from TERI could pursue. This is important since the course is unique and it would have helped some of us understand our value better and make better choices while choosing jobs. More help from faculty and placement cell would have been useful. This could be done as an extra curricular exercise as well.	No.	I think reducing the number of elective courses would hamper students from learning the value of interdisciplinary research. A lot of the learning from elective courses is very useful and promotes wider range of thinking.	No. More elective courses could be included in any of the other semesters. Personally the experiencing of writing the thesis has helped me understand the importance of thinking originally and this has been my greatest takeaway from the TERI course.
Karan Bhasin	Yes	Advance Macroeconomics course wasn't there and macroeconometrics wasn't a part of the module.	Partly yes.	Macroeconometrics should be added as an optional field if possible along with a module on GIS to help students make use of the highlights data which may become the next big area of research in economics.	No. Masters Thesis was one of the best part of the program and a motivation factor for me to come to TERI. The entire experience is one that helps immensely to those who want to pursue a career in research. Given that the program is a research-based program, making the Thesis non-compulsory may make it similar to other programs.

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Mahima Vasishth	Yes	I wanted to pursue a PhD in economics after my M.Sc. I am currently pursuing my PhD in economics from University of California, Irvine. The biggest roadblock I faced during my application was the lack of rigorous math courses. I got this feedback on my application from recruiters at Dyson school in Cornell, USC and UVA; and from my third recommender at DSE who I was RA-ing for, for 3 years. I also felt there was a lack of methods courses which could have enabled me to think of a research question for the Master's thesis which could have strengthened my application.	The inclusion of econometric method class in the programme structure is very welcomed especially to spur interest in impact evaluation studies for dissertation.	The micro courses on game theory in semester 2 was very good. I believe the current curriculum removed that course. The development and environment courses in second semester could be offered as a single course, given the environment and natural resource courses in the third semester	I believe the master thesis played a huge role in spurring my interest in research and graduate studies. But for students who had absolute certainty about their interest in corporate or government exams, extra courses could have been more useful
Kavitha Srikanth	I was quite happy with the old program structure overall, but I did have a few concerns and what some plausible incremental suggestions.	The course definitely more than adequately prepared me to be able to undertake research, especially in environmental, resource and ecological economics- which were my areas of interest. That being said, I believe I could have benefited from some exposure to practical tools in general equilibrium, or in understanding climate models etc., A more detailed exposure to climate science, climate modelling, international climate policy etc., would have been ideal and would have helped to be more rounded in terms of justifying the environmental specialisation. Optional courses on graduate level development economics, public policy etc could have also been helpful, especially for students like me looking to transition into economic research from a non-economic background.	Yes, for example- courses on development economics have been introduced. A few of my considerations as mentioned above still remain, at the moment.	Some courses that I thought could have been useful from a standpoint of further studies in this field is that maybe that we could have had a few more mathematical courses, an option to get a graduate level exposure to public policy and a more detailed course on climate science, climate modelling, international climate policy, etc., as part of the curriculum. Additionally, through seminars and workshops-- if one could get a practical introduction to modelling tools like general equilibrium models or climate modelling tools, it would have been ideal.	I personally believe that the course was structured in this way to be ideal for a candidate interested in pursuing a research based career. Since my interests have always leaned towards research, I believe the masters' thesis was extremely useful both in to improve my quality of research and also acted as a positive signal of being capable of doing research to my employers, and possibly for my further studies as well. Nevertheless, I do understand that everyone might not be interested in research -- and hence I do think it wouldn't be wrong to keep the dissertation optional and examine other options, possibly from other courses that could be more aligned to their line of interest.

Ongoing student's feedback responses

Name of the student	Semester	In your opinion, is there any shortcoming in the programme structure and contents that you are pursuing to enable a M.Sc. Economics passout to prepare for the kind of engagements that you wanted to pursue?	Do you think the previous programme structure fulfills these requirements better than the one pursued by you?	Rank the following distribution of credits across the four semesters to fulfill these requirements (1-4) {*click the arrow sign on the right side as per your preference}	Add a line in support of your ordering above ranking?	Do you like more option of electives to be offered in the third semester?	Given the new structure where we do not have electives in the fourth semester, do you feel we need to include electives to be introduced in the fourth semester?	Do you like electives to be offered in the second semester?	To fulfill these requirements, do you recommend Masters Thesis being made non-compulsory, and a choice is given to pursue additional courses of equivalent credit instead in the fourth semester? Give reasons
Shivani Srivastava	2	Lack of Game Theory component.	In a way, yes.	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	More credits mean more hours of self study, and They're already constrained.	NA.	There might be students who want extra credits to compensate for past mistakes. The option to do or not do so must be available.	Yes!	No. Master's thesis must be compulsory, additional courses may be at a personal level.
Sonali Malhotra	4th	Yes, after pursuing this course we are more suitable for research jobs and not corporate.	No, this structure is better but choice of electives can be given in 2nd semester as well.	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-20-20;16-20-24-20;	the existing distribution is fine.	Yes	No	Yes	Yes, there should be a choice between courses and thesis,

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Yashi Puri	4	The subjects in the initial semesters could be increased and instead of 4 subjects in the first semester, more subjects could have been pursued to enable us to study more subjects which could have enabled us to have our hands in the corporate world as well.	To some extent, the previous structure had option of studying an extra subject in the last semester as it was compulsory , so there was an edge over the current programme pursued by us.	The previous distribution 20-20-20-26;The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;	As mentioned above as well, for me more subjects would have been offered to us.	Yes	Yes for sure.	Yes, especially the Methods of Research in Economics should be taught in the third semester.	Yes for people who are inclined more towards the corporate jobs and not specifically to the research world would have an advantage in studying additional courses.
HIMANI JAIN	FOURTH	The type of research job it makes us capable of requires work experience everywhere. there are only few places where we can apply and even it is not exactly the profile we want.	no.	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-24-20;16-20-20-20;	i am fine with the existing distribution of credits.	yes.	2 electives should not have been mandatory in third semester. there should be a choice given to students if they want to have it in third or in fourth semester.	Yes.	Yes, because the students who want to go in the corporate sector can choose their subjects and interests accordingly.
Ayushi Khurana	4	There should be a subject related to research and methodologies before the second year since we are required to work on our research in third semester as well.	yes	16-20-20-20;The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-24-20;	Adding an elective would help in second semester in order to decide our research	Yes	Yes they should be.	Yes.	It would give a great amount of flexibility to the students, so maybe a yes.

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					topics.				
Saloni Agarwal	Fourth	The course structure needs some improvements regarding the division of the subjects over the two years. The course is pretty rigorous and helps one to prepare for future engagements. Also, many courses that were essential for the understanding of the thesis were offered late in the semesters which blocked many good topics that could have been pursued as a master's thesis.	In my understanding, no.	16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;The existing distribution 16-16-20-20;	The load for the semesters should be divided more evenly. The sudden increase of burden in the third semester is too hectic to handle. Better division with more electives also helps students to select subjects as per their interests.	Courses like Econometric s and Time Series can be merged and offered as one subject. More options should be provided in the third semester.	A choice of electives should be offered to those who are willing to take a course in the fourth semester to keep themselves in the university.	Yes. The courses offered are not comfortably handled by all the students. Having a choice will help students to take courses as per their liking.	The compulsory Master's Thesis is a good end to everything learned in the last three semesters. It should not be made non-compulsory. Though, some other changes could be more helping like having a supervisor or mentor from the second semester, who can help shape the right idea for the thesis. It is still provided by the university but it would help if it is made compulsory to meet him/her as students are not clear about what they are going to take as their thesis topic.
Abhishree	Fourth	As such no. There is lot of emphasis on providing research base through literature reviews and essays. Also, the Econometrics course is helpful for linking theory to practical.	Not much idea about the previous structure, however, existence of courses along with the Master Thesis in the	16-20-20-20;The existing distribution 16-16-20-20;16-20-24-20;The previous distribution 20-20-20-26;	Courses like Environmental Economics can be taught in the second semester to get a better	No. The existing options seem fine. However, taking one elective instead of two seems more comfortable given we	The existing structure is fine as electives in fourth semester would not be easy to balance with the Master Thesis.	Yes. Courses like Methods of Research in Economics and Environmental Economics could be taught in second semester. Courses such as Growth	Master Thesis gives us a nice and enriching experience of applying our knowledge and get a better understanding of the real world. Thus, it should be kept as compulsory.

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			previous structure would make it slightly more difficult to focus on the thesis.		understanding of applying the methods in the practical world. This would help in choosing a topic for the thesis for the third semester.	have to submit the thesis proposal as well.		Economics could be a part of electives.	
ROHAN MAHAJAN	4	Busy schedule. Could have been a better distribution of subjects and workload.	.	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	.	Yes	Yes, for those who wish to opt for them.	Yes. This is much needed.	No. Master's Thesis is a very important part of the course and enables us to gain a lot of knowledge and experience. However, choice of additional subjects to pursue along with the thesis may be provided.
Mrigakshi Tandon	Fourth	The way the program was structured was great but there were some problems that was faced by us. One was the choices of electives in third semester as we wanted to gain knowledge on some more subjects but due to the restriction on the number of electives we were only able to take 2 out of 5 . Second, the time allotted to the core subject Environmental Economics was less	No, the programme structure provided to our batch is way more better than the previous batch. This structure is perfect for preparing us for the job market but it needs some	16-20-20-20;The existing distribution 16-16-20-20;16-20-24-20;The previous distribution 20-20-20-26;	This ranking will improve the scope of the structure in terms of subjects offered.	No. The options offered are sufficient but, either the choice of electives should get distributed in the second and third semester or one of the core subject should be shifted to the second	No. The choice of electives in the fourth semester should not be a compulsion as it gives us time to go on the fields and work on our thesis.	Yes	No Master thesis helps us to apply our theoretical knowledge in practical terms. We are able to get an experience plus it also gives an edge to us over others.

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		<p>compared to the syllabus. In less amount of time we had to cover a huge syllabus which was not quite possible if we have to have a in depth knowledge of the subject.</p> <p>Thirdly it will be beneficial for the students if in Methods of Research course we are able to talk to the other teacher for our thesis ideas than a single professor. If in MRE we would have got inputs from all the teachers then we would have been better off.</p> <p>Also the Environmental Economics subject should be taught as a core subject in the second semester instead of third so that the students have an idea of the various methods one can apply. This will make the students better off at the time of their thesis in the third semester.</p>	modifications.			semester (Preferably Environmental Economics) .			
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Tarul Jain	4th	I am aware of the fact that we are supposed to do our primary surveys in this semester, but I feel that some subjects can be taught in the thesis semester as students are quite free during this period. Also the course research methodology can be refined a bit more so that it is more useful for the students. Apart from that I feel it is an amazing course!	Yes, Definitely.	The previous distribution 20-20-20-26;16-20-24-20;16-20-20-20;The existing distribution 16-16-20-20;	It is important to have subjects in the final semester.	Yes. Also Environmental economics should be taught in second semester instead of the third considering the course includes various research methods which were not useful for us. The reason being that we were expected to present a lot of things in the research proposal before it were taught to us.	Yes. It is important that we have at least two courses in the final semester.	Yes, However, electives like game theory and advanced micro economics should be brought back.	No. I feel master's thesis should be compulsory considering it is a core addition to the entire curriculum. The amount of experience and knowledge gained during the thesis is very important for every master's student. Nevertheless, there is no harming in adding one or two courses. As it's a master's program, I feel we should make it a rigorous one.
ROHAN MAHAJAN	4	No.	No.	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	.	Yes	Yes. For those who wish to study some courses.	Yes. It gives an edge to the students as to what they would like to study instead of compulsory subjects.	No. The thesis is a crucial part of the course structure and allows us to strengthen the research skills.

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Srishti bagadia	4th	Not as such, the program is research oriented and prepares the students with a practical approach to make their career in this.	No	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	The existing distribution gives any student time to adjust to masters and the credit requirement offered is in accordance with the semester course.	No	Yes, some of the subjects offered as electives in the third semester could have been offered here in the fourth	Yes	Yes. Some of the students who are not interested in academics further and research might benefit from this option.
Himani Jain	fourth	1. Thesis should not be a mandatory component. 2. more software should be taught.	no	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-20-20;16-20-24-20;	I'm fine with the existing distribution	yes	yes	yes	yes
Abhishree	Fourth	No. The programme provides a good exposure to theory as well as practical. Assignments such as literature survey, essay help in developing a mindset useful in the field of research.	No	16-20-20-20;The existing distribution 16-16-20-20;16-20-24-20;The previous distribution 20-20-20-26;	It would be better if the last semester contains only the Thesis component and the second semester could add one more core paper on the technique	No	No	Papers like Methods of Research or Environmental Economics could be offered as either core or electives in the second semester as this would help in preparing our thesis proposal in the third semester.	Master's Thesis is a good tool for applying the concepts we study in the real world and get a hands on experience in the field of research. Thus, it should be kept as compulsory.

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					s for environmental valuation to assist in thesis.				
Ayushi Khurana	4	Giving an option to opt for various electives Semester 2 onwards	Yes, they had electives in semester 4	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	Distribution of credits and pressure	Yes but not at the cost of additional credits.	Yes they should be.	Yes.	It could either be made non compulsory or the credits for the thesis could be reduced to balance with the elective subjects.
Sonali Malhotra	4th	Yes, the choice of subjects should be given from second semester.	I am unaware of the previous program.	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-20-20;16-20-24-20;	I like the existing program with less number of credits to complete.	Yes	No	Yes	Yes, thesis should be a choice.
Megha Kapoor	Fourth	Alot of theoretical knowledge is provided and less practical knowledge.	yes	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	Credits should be uniformly distributed. All the burden should not be passed on the last semester.	yes	NO	not all the electives	Master thesis should be made compulsory, because it helps the students to gain practical knowledge.
Yashi Puri	4	Adding some more optional courses in the second semester would have been more helpful.	Yes	The previous distribution 20-20-20-26;16-20-20-20;The existing distribution 16-16-20-20;16-20-24-20;	The previous system offered more courses and some additional field-specific	Yes	Definitely Yes.	Yes and especially Methods of Research in Economics course, if taught in the second semester, would be very	Yes. This would be helpful for those who do not have much interest in research and would want a career in corporates.

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					courses in the last semester.			helpful.	
Yashi Puri	4	More number of courses to be offered would be more helpful.	Yes	The previous distribution 20-20-20-26;16-20-20-20;The existing distribution 16-16-20-20;16-20-24-20;	More number of courses and especially in the fourth semester which were field-specific was better.	Yes	Definitely Yes.	Yes and especially Methods of Research in Economics course should be offered in the second semester.	Yes. This would be helpful for those who do not have much interest in research and would want career in corporates.
Debanjali Dasgupta	4	No	No	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-24-20;16-20-20-20;	More electives in the third semester would be beneficial for the students while pursuing their thesis	Yes	No	Yes	No masters thesis should be compulsory as it enables a student to gain a deeper knowledge of the particular area of the study and enables the student to learn as well as demonstrate research skills.
KOMAL JUNEJA	SECOND	Econometrics should be included in the first semester to enable a better understanding of the research papers	I feel our course structure is better	The existing distribution 16-16-20-20;16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;	Given the focus of the course, more weightage should be given to the core research work.	Yes	no	Yes	No, Masters thesis should be compulsory.

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Anoushka Chauhan	Second	We are very satisfied with the course structure and its standards. I however feel there is less time to go deep into the subject. With too many assignments and back to back exams we are just rushing through everything. The assignments and submissions are interesting and very helpful. It is the dearth of time which affects my productivity. I would prefer exams at preferably longer intervals.	Not sure about the same.	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	I have no issues with the existing credits distribution.	Yes	Yes.	Yes	Additional courses will be a better option for students who don't want to go in research field.
Omjee Shukla	Semester - 2	As such there are no short-comes, but on hand training of various tools should be given in order to prepare for competitive job markets in corporate world.	Our previous batch had the same curriculum as ours	The existing distribution 16-16-20-20;16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;	First semester should be given less weightage according to me as we all are not so familiar with the first sem material so it gets hard to cope up with even environment and curriculum at the same time.	Yes	Yes, but they should be audit in nature instead of credit	Yes	I am kind of indifferent here as masters thesis is a good value addition to students wanting to do research further , but those who want to end up in corporate must be given choices to pursue such kind of subjects.

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Nayanika	2nd	I feel like maybe some of the subjects go into too much detail(like growth economics) for them to remain relevant to the program. Other than that, for someone pursuing research, the course structure is excellent!	No.	16-20-20-20;The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-24-20;	The second semester is rigorous, it should at least be given the same weightage as the third semester (which we've heard is harder)	Yes	No, I think dedicating an entire semester to the dissertation is necessary.	Yes.	No, I feel like this is what sets TERI SAS apart from other institutions offering Master's in Economics.
Anushka Saxena	2	No	I am not sure	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-20-20;16-20-24-20;	It reduces the load of having five subjects in the semesters	Yes	Yes	No	Yes It gives opportunities to pursue the programme in more depth.
ANSHIKA SINGH	2	Yes, there are so many assignments and deadlines that instead of learning anything from it , more focus is on just completing it for the sake of it and hence there is no quality learning . It's good that our teachers expect us to read many references and supplement our literature reviews and surveys but it's not just about reading those 30-40 papers , in order to understand them and	In last semester we had only written exams and not so many assignments , so I can't comment on this	The previous distribution 20-20-20-26;The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;	What I feel is that I initially we can learn and work on our knowledge base and then in the last semester we do only the application work and that should be	Yes, something related to finance and international markets , more relevant subjects when considering job options associated with Economics	Can introduce , subjects which supplement our thesis efforts or job prospects	Yes, so that one can study what one considers to be relevant according to their career prospects.	Yes there should be choice since it's not necessary that everyone wants to pursue a career in research and write papers , there may be a possibility that one wants to pursue additional courses and looking forward to some other career prospects .

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		<p>extract some value from them one needs to give some considerable time , but instead we are more bothered about the next assignment which has altogether a new deadline and instead of feeling enriched with knowledge one feels always worked up and all the enthusiasm is gone. My suggestion is that it's really good , the things we are being taught but quantity of assignments needs to be reduced to get a better quality. Burdening up with plethora of assignment and at the same time focussing on written exams won't fetch any efficiency. One needs to keep oiling a machine called brain to work better , only robots can work on algorithms. Also, there is a need to add subjects which dealing with finance or the once which has more application in the practical world. Economics which we can actually apply and get good jobs.</p>			<p>assigned more credits since practical knowledge is ultimately that is needed</p>				
Sukhmani Kaur	second	<p>Econometrics could be done in the first semester alongside Statistics. My argument for this is that the course</p>	<p>I don't know the previous structure, except for</p>	<p>The previous distribution 20-20-20-26;16-20-20-20;The existing distribution 16-16-</p>	<p>Having some elements of the currently</p>	<p>I am fine with the options available</p>	<p>Yes</p>	<p>Yes</p>	<p>Given a choice, I'd like to pursue a thesis, alongside a relevant elective where by 'relevant', I mean that I perceive it to be a useful add-on to my skills or knowledge to conduct better research for the thesis.</p>

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		is greatly helpful in understanding research papers since econometric tools are heavily used.	the credit system given in the next question, my preference for which I have indicated below.	20-20;16-20-24-20;	designed second semester in the first semester would be a good idea. Otherwise , it is too drastic a shift from the first to the second semester. A 'semester smoothin g' might help students adjust better. Written assignments (as in the ones that require us to read, think and write such as critical reviews, summaries, etc must be encouraged right from the beginning.				
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1.4.1.F.

Manpreet Kaur Suri	Second	Contents are good but due to back to back submissions we are not able to concentrate on each assignment properly.	No	The existing distribution 16-16-20-20;16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;	It is distributed more evenly	No	No	No	Yes
Nupur Ahuja	2nd Semester	Yes. The course being more research focused, overlooks the other prospects due to which people end up in jobs and internships which are more research oriented. Technical aspect is missing.	Not really. It looks like the course structures are built such that the programme tends to be more rigorous in both the years than was expected after redistribution of credits this year.	The existing distribution 16-16-20-20;16-20-24-20;16-20-20-20;The previous distribution 20-20-20-26;	It needs to be more equally distributed across semesters. More weightage for the semesters with major works.	NO. Instead it would be a good idea to convert a few core subjects into electives to help reduce the burden that falls on a student majorly in the 3rd semester.	A few core courses in 3rd semester could be assigned in the 2nd semester and then introducing the thesis work and electives in the 3rd semester only would be of great help.	Yes, would be a good idea only if electives were transferred from 3rd to 2nd semester.	Master thesis should not be made non-compulsory but the thesis work should start with effect from the 2nd semester itself to help students thoroughly prepare for their thesis topic and further work. Additional courses could be introduced on non-compulsory basis for the students interested in pursuing an altogether different prospective in future. The master thesis could be made non-compulsory for students pursuing atleast 2 or more of such additional courses in order to let them choose a different path from research.
Saloni Agarwal	Fourth	The M.Sc. Economics program offered by TERI University is one of it's kind. The program is rigorous and prepares us right for the coming work. The only short-coming is in the delivery of the curriculum. It can be made better with a little effort.	No, the structure offered to us was quite unique and well prepared.	16-20-20-20;The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-24-20;	The course load suddenly increases a lot in the third semester. Better to have an equal distribution from semester two to	Yes. Not only the number of electives should increase but also the distribution of electives should be changed a little. The ones offered in semester two were	At least some electives should be offered to students who would like to take them up. This would help them stay connected to the course and the university for the last semester.	Yes. The second semester requires some electives so that students could be exposed to more choices that they could take up for better performance throughout the course.	No. Master's thesis is unique in its regard. It gives us better opportunities to explore the research option and be prepared for what is yet to come. Though the scope of the topics could be widened so that people can pursue the topic of their liking.

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					ease the transition. Also, this increased credits would let one take up more courses than offered right now.	not as per everyone's interest. Changing the optional electives would let students select the ones that they are most interested in studying.			
Kasvi Singh	Two	The courses of microeconomics and growth economics in the first and second semester respectively are very abstract. They can be modified to help the students understand their applicability better. The statistics course in the first semester can also give more weightage to software and program learning for better professional prospects for the students.	Not aware about the previous programme structure.	The existing distribution 16-16-20-20;16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;	The present distribution seems practical and manageable given the limited time that one can give to each subject in one semester.	The electives seem sufficient.	If there is a compulsory master thesis, then keeping electives may not be that useful or may not be utilised by most students.	No. The second semester spans across different aspects of economics and the courses currently offered are quite important for laying down a foundation for better economic understanding. However, I do feel that the growth economics course can be substituted with financial economics or international economics.	No, for me, a compulsory master thesis is one of the major reasons why I applied for this course. Several other universities do not have such requirements. But I feel it is essential to go through this process of academic research and writing in order to become better academicians and professionals in the future. Making it optional may not be the best option. However, if any individual faces a serious problem then maybe an extension for a month or so can be given to smoothen things.

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Vibhuti Chitkara	2nd	No	No	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	Less Stress	Yes	No	Yes	No because Master Thesis give experience and helps in doing our own research.
Ritika Goenka	Second	There is no shortcoming. The course is well-structured with the required skills and information.	I liked the current course more	The existing distribution 16-16-20-20;16-20-24-20;16-20-20-20;The previous distribution 20-20-20-26;	In a new environment, it takes time to adapt. Thus, having 16 credits than 20 gives an opportunity to cope better.	Yes, it will be nice to have more options and also the opportunity to choose some elective courses in the 4th semester.	Yes. Since we have to choose two electives in third semester, it's very difficult to choose. Some of the courses can be pursued in the fourth semester which will increase the knowledge base in new fields. or it could be, optional to choose electives in the 4th semester.	The currently offered courses are compulsory subjects. I am not sure if I am capable of pursuing elective courses along with core courses. so, I am uncertain about this. However, I do enjoy the offered courses.	I am uncertain about this. Some would like to pursue academia and some might switch to corporate jobs, it depends on one's further planning. However, my core interest lies in research thus it's a very good learning opportunity for me and I would like to pursue one-two elective courses as well.
Gursparsh Kaur	2nd	Yes. I think an internship programme should be made mandatory with assigned credits in the 2nd semester.	No.	The existing distribution 16-16-20-20;16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;	The current structure is fine.	Yes.	No.	No.	No, a mandatory master thesis is recommended because many would choose not to do the thesis if it is not mandatory.
Simran Kapoor	Second	In my opinion the only shortcoming of this course is that we don't get the exposure to the practical world. Therefore, some kind of internship	No	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	I am satisfied with the present credit system.	Yes, I feel like addition of some more elective options would be	No	No	According to me master thesis should not be made non-compulsory since it adds a lot of value to our master's degree as well as to our experience and knowledge.

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		programme should be included in the course structure.				really helpful like financial economics, advanced mathematics, managerial economics etc.			
Rithvik Kumar	4	Yes, I feel the curriculum has to teach us to be more comfortable with working with statistical softwares and large databases	No	16-20-20-20;The existing distribution 16-16-20-20;16-20-24-20;The previous distribution 20-20-20-26;	I don't believe that credits are exactly equatable to rigor. As per the current pattern, the first semester is quite rigorous despite being only 16 credits, so that must remain.	Yes. I would prefer 3 or 4 options among a set of 7 electives	No. The current system allows students to carry out more extensive field surveys	Neutral. The current system is quite challenging and relevant but offering electives may give better clarity while carrying out the master's thesis.	Yes, absolutely. Students must be given the choice to choose courses instead. Although the learnings from the master's thesis can be immense, not everyone may be motivated to carry out one project in such a large time frame. Moreover, courses, if structure well, can offer great value too.
SWOSTI SUBHRAJYOTI SAHOO	2	The institute should offer some field work for the students to better understand the theoretical stuff taught in the class.	No	The existing distribution 16-16-20-20;16-20-24-20;The previous distribution 20-20-20-26;16-20-20-20;	Helps to get accustomed to the rigorous course structure of the institution.	Yes	No.	Yes.	No. In my opinion compulsory masters thesis is the strongest point of our course. Rather electives should be offered from 2nd semester itself.

2020-21

Agenda item: To propose a change in the structure of the MSc Economics programme as follows:

Semester	Current Structure	Proposed Structure	
Semester 1	4 Core Courses (Total 16 credits): Probability and Statistics(4 credits) Mathematical Methods for Economics(4 credits) Macroeconomics(4 credits) Microeconomics (4 credits)	4 Core Courses (Total 16 credits): Probability and Statistics(4 credits) Mathematical Methods for Economics(4 credits) Macroeconomics(4 credits) Microeconomics (4 credits)	
Semester 2	4 Core Courses (Total 16 credits): Econometrics (4 credits) Environment and Economic Development (4 credits) Growth Economics (4 credits) Development Economics (4 credits)	4 Core Courses (Total 16 credits): Econometrics (4 credits) Environment and Economic Development (4 credits) Growth Economics (4 credits) Development Economics (4 credits)	
Semester 3	3 Core Courses +Elective Courses worth 8 credits (Total 20 credits): Methods of Research in Economics (Core; 4 credits) Environmental Economics (Core; 4 credits) Natural Resource Economics (Core; 4 credits) Elective Courses worth 8 credits (see list below)	3 Core Courses +Elective Course worth 4 credits(Total 16 credits): Methods of Research in Economics (Core; 4 credits) Environmental Economics (Core; 4 credits) Natural Resource Economics (Core; 4 credits) Elective Course (see list below)	
Semester 4	Master's Thesis (20 credits)	Option between Thesis Track and Coursework Track (16 credits)	
		Master's Thesis (16 credits)	Elective Courses worth 16 credits (see list below)
Total	72 credits	64 credits	

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The list of courses approved for offering as elective in the MSc Economics programme is given below:

Indian agricultural development: Contemporary Issues
Economics of health and environment
Trade, Development and Environment
Time series and regression analysis
Advanced Econometrics
Microeconomics-II
Labour Economics
Ecological Economics
Energy Economics
Advanced Macroeconomics
Industrial Organisation
Theory of Contracts
Law and Economics
Theory of Finance Public Economics
Collective action and environmental management

It is proposed that if this structure is approved, the assessment criteria of electives offered by the programme in its fourth semester will place higher weightage on term papers/literature survey, presentations etc. This will enable the students to apply their learning to problems of current interest and in turn, improve their job market prospects.

The students of the programme can also fulfil their elective credit requirements from courses offered in other programmes in the institute, subject to approval from the Programme Coordinator.

Background for the proposed change:

A similar programme structure, conceived by the MPEC of MSc Economics programme on the basis of student feedback, was placed and approved at the Board of Studies meeting on 25th April 2018. This structure was shared with stakeholders including recruiters, academicians, current and past students to obtain their feedback. The Academic Council suggested further changes that led to the current programme structure as approved in its 43rd meeting dated 12th June 2018. The Academic Council further recommended that “the structured feedback from various stakeholders be obtained in order to take inputs on the programme structure and analysis of the same be presented in the next Academic Council”.

The current programme structure was implemented from the July-December semester of 2018. Since students are the most important constituent of stakeholders, the MPEC Economics collected structured feedback from two batches of students, viz., the 2018-20 batch and the

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2019-21 batch. The salient features of the feedback (Annexure D) are presented in the Table below.

Salient Features of Student Feedback on Programme Structure (Total 51 respondents from two batches)	
Major Shortcomings of current structure (60% respondents listed at least one)	(a) Less number of subjects/electives on offer (b) Too much focus on research (c) Busy schedule of assessments
	(d) The courses are less practical in nature
Comparison to previous structure	About 60% respondents preferred the current structure over the previous one
Distribution of credits	About 60% respondents felt that the current distribution is appropriate
Electives in third semester	About 80% respondents felt that there should be more electives to choose from in third semester
Electives in fourth semester	About 55% respondents did not feel need of electives in fourth semester, while rest felt the need of electives in the fourth semester, but either as an option to be exercised, or to make up for lost credits
Electives in the second semester	Almost 80% respondents wanted electives to be introduced in the second semester itself
Master's Thesis be made non-compulsory	About 40% respondents wanted master's thesis to be made non-compulsory, while about 60% wanted master's thesis to remain compulsory

It follows from the student feedback that while a section of the students value the research orientation of the programme, another section wanted to exercise freedom in terms of choosing more electives. This necessitated that the course structure approved by the Board of Studies in its April 2018 meeting be revisited.

Feedback was collected from academicians, employers and alumni (Annexure A-C) seeking their opinion on a programme revision in the lines of the course structure approved by the Board of Studies in its April 2018 meeting. The salient features of this feedback, which reaffirm the justification of the proposed change in programme structure, are presented below.

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Salient Features of Stakeholder Feedback on Programme Structure	
Stakeholder type	Feedback
Academicians (16 respondents)	<p>Most respondents felt that</p> <p>(a) the proposed changes in the programme structure satisfy the objectives better than the old one.</p> <p>(b) exercising the course track option may affect the future career prospects of the students positively.</p> <p>(c) the programme with proposed changes will continue to imbibe research aptitude among the students, as it will allow the interested students to commit to producing quality dissertations.</p>
Recruiters (5 respondents)	<p>Recruiters mostly agreed that proposed changes can help in imbibing most of the qualities that they would like a future employee to possess.</p>
Alumni (4 respondents)	<p>Alumni members found that less number of electives offered is a shortcoming of the current structure. The responses were equally divided on offering master's thesis as an optional track.</p>

Alumni Feedback 2020

S.no	Start time	Name	In your opinion, was there any shortcoming in the programme structure and contents that you had pursued to enable a M.Sc. Economics passout to prepare for the kind of engagements that you wanted to pursue?	In case, yes, what were they?	Do you find the new programme structure and content fills those gaps?	What changes you would like to propose to the new programme structure and its contents to ensure that it fulfils the requirements of maximum number of students to enable them to pursue their chosen field or area of engagements at the end of programme?	To fulfill Thesis b pursue a fourth s
1	1/21/20 10:37:13	Promit Mookherjee	Maybe.	Not from a learning point of view but it would have been great if we had been given more exposure to the kind of future career paths a graduate from TERI could pursue. This is important since the course is unique and it would have helped some of us understand our value better and make better choices while choosing jobs. More help from faculty and placement cell would have been useful. This could be done as an extra curricular exercise as well.	No.	I think reducing the number of elective courses would hamper students from learning the value of interdisciplinary research. A lot of the learning from elective courses is very useful and promotes wider range of thinking.	No. Mor semester helped r and this
2	1/21/20 12:23:35	Karan Bhasin	Yes	Advance Macroeconomics course wasn't there and macroeconometrics wasn't a part of the module.	Partly yes.	Macroeconometrics should be added as an optional field if possible along with a module on GIS to help students make use of the nighlights data which may become the next big area of research in economics.	No. Mas and a m experien pursue a research may ma
3	1/22/20 1:26:32	Mahima Vasishth	Yes	I wanted to pursue a PhD in economics after my M.Sc. I am currently pursuing my PhD in economics from University of California, Irvine. The biggest roadblock I faced during my application was the lack of rigorous math courses. I got this feedback on my application from recruiters at Dyson school in Cornell, USC and UVA; and from my third recommender at DSE who I was RA-ing for. for 3 years. I also felt there was a 1.4.1.125	The inclusion of econometric method class in the programme structure is very welcomed especially to spur interest in impact evaluation studies for dissertation.	The micro courses on game theory in semester 2 was very good. I believe the current curriculum removed that course. The development and environment courses in second semester could be offered as a single course, given the environment and natural resource courses in the third semster	I believe interest had abs governm

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4	1/30/20 12:49:46	Kavitha Srikanth	I was quite happy with the old program structure overall, but I did have a few concerns and what some plausible incremental suggestions.	The course definitely more than adequately prepared me to be able to undertake research, especially in environmental, resource and ecological economics- which were my areas of interest. That being said, I believe I could have benefited from some exposure to practical tools in general equilibrium, or in understanding climate models etc., A more detailed exposure to climate science, climate modelling, international climate policy etc., would have been ideal and would have helped to be more rounded in terms of justifying the environmental specialisation. Optional courses on graduate level development economics, public policy etc could have also been helpful, especially for students like me looking to transition into economic research from a non-economic background.	Yes, for example- courses on development economics have been introduced. A few of my considerations as mentioned above still remain, at the moment.	Some courses that I thought could have been useful from a standpoint of further studies in this field is that maybe that we could have had a few more mathematical courses, an option to get a graduate level exposure to public policy and a more detailed course on climate science, climate modelling, international climate policy, etc., as part of the curriculum. Additionally, through seminars and workshops-- if one could get a practical introduction to modelling tools like general equilibrium models or climate modelling tools, it would have been ideal.	I personally would like to be identified as a research based career, both in terms of positive employment opportunities. Nevertheless, I have a strong interest in the field of climate change, and I would like to explore all the options, and align my career with it.
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Employer's feedback 2020

S.no	Name of the Organization	Name of the respondent	Designation	Email id	Contact number	Signature	Technical skills and domain specific knowledge	Teamwork and interpersonal skills	Communication Skills (Oral and Written)	Ability to think creatively, objectively and offer insights into solving problems.	Proficiency in the use of technology (IT)	Analytical skills	Project Management skills	Ability to handle pressure	Time management	Adherence to organisational rules and regulations
							1.4.1.126									
1	Tata Trusts	Divyang	Head - Tata Water	dwaghela@t	9819488613		Satisfied	Neutral	Satisfied	Satisfied	Neutral	Satisfied	Satisfied	Neut	Neutr	Very

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2	The Reserve Bank of India	Satadru Das	Manager	satadrudas@rbi.org.in	9051751635	Satadru Das	Satisfied	Satisfied	Very Satisfied	Neutral	Very Satisfied	Satisfied	Neutral	Satisfied	Neutral	Satisfied
3	IRMA	Pramod K. Singh	Professor	pramod@irma.ac.in	9662514668	P K Singh	Satisfied	Satisfied	Neutral	Satisfied	Satisfied	Satisfied	Satisfied	Neutral	Satisfied	Satisfied
4	Development Solutions Inc	R Vinaygam	Manager- Monitoring and Evaluation	Vinay@devsolutions.org	9999999999	Vinay	Neutral	Satisfied	Very Satisfied	Very Satisfied	Satisfied	Satisfied	Neutral	Satisfied	Satisfied	Satisfied
5	TERI	Souvik Bhattacharya	Associate Director	Souvik.bhattacharya@teri.res.in	9650712150	SB	Very Satisfied	Satisfied	Satisfied	Satisfied	Very Satisfied	Very Satisfied	Inability to Judge/Not Applicable	Satisfied	Very Satisfied	Inability to Judge/Not Applicable

Peer’s Feedback 2020

S.no	Do you think whether the proposed changes in the programme structure satisfy the objectives better than the old one?	Do you find any gap in the programme which are covered by the core courses in other programmes?	Do you find the course ‘load’ that includes extent of readings, number of modules, assessment methods and other such is appropriate for an M.Sc Economics programme?	Do you think that exercising the course track option may affect the future career prospects of the students positively?	While many of our students opted for higher studies, do you think the programme will be able to imbibe research aptitude among the students?
1	It would definitely provide better flexibility to the students, which is always welcoming.	There seems no gap as such. However, I hope the apparent missing modern game theory, at least at the foundation level, will be covered in M.Sc Economics programme in the future.	1.4.1.127 It is somewhat balanced. However, some course on Game theory, Macroeconomics II, etc. should be included in addition to the existing ones.	Perhaps, yes.	Yes, many go for higher studies and if they feel so, they will choose Dissertation. Alternatively, they can opt for research projects.

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2	Yes	Since the emphasis is on environmental and resource economics, the sem 3 core papers of Environmental economics and Natural resource economics should be done in sem 2 and students should be given more electives branching out of these in the subsequent semesters	Yes	Yes since not everyone might have a research orientation	As mentioned earlier this to self selection and the might be better in terms research skills being hon interested students and term papers research ski imbibed at a certain leve others
3	It is better to give both research and coursework options as some students may wish to acquire more knowledge through extra courses whereas others would want to gain research skills for further studies. So, new changes seem better.	course structure looks comprehensive, and it also teaches micro and macro and stats, so students doing this program would have a sound knowledge base.	It looks appropriate	If students learn some applied skills such as econometrics (which is both core and elective in the program), it should help them with future jobs.	Those who wish to do fur research can take up the so it does not reduce opt compared to older versio
4	Yes	No	Yes	Yes	Yes
5	Yes. However, point no. 1 needs to be rephrased - you mean "former" and not "latter"	Difficult to comment as I could not see all the core courses listed anywhere in the website	Difficult to comment as I could not see all these details listed anywhere in the website	Yes, indeed it will make a positive difference	Yes
6	Yes	No	Yes	No	Yes

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7	<p>Giving students the choice between the research track and the coursework track appears to be a sound one in my opinion. However, why do you mention the range 16-20? Earlier the course was given 20 credits. Now to keep parity with the coursework track, the credit weightage has to be 16 credits for the research track. Second, I am not sure if linking the research track with a minimum cut-off grade criterion is a sensible idea. The reason is that skill in research is not very highly correlated with the ability to score well in examinations. In my experience, students with humble grades often show much higher motivation and ability in research than those with higher grades. You can retain a cut-off requirement though only for MPE 176 for this, as in the previous structure of the Master's thesis.</p>	<p>The courses covered, including electives, are at par with international standards in terms of content.</p>	<p>This course load is also standard and does not require any alteration.</p>	<p>The research track option is likely to improve chances of getting placed in job interviews for students. In my experience, the content of the Master's thesis is the only differentiator for students who get similar grades in the other courses. This has helped employers evaluate the research capability of an individual candidate in some cases that I know of.</p>	<p>Introducing the choice between the research and the coursework tracks should help in better targeting of research capabilities. The only problem that I find is the minimum cut-off grade to qualify for the research track. Some students do not fare well in exams, but have good research potential. This choice between two tracks should be unlike the minimum grade requirement. Once they sign up for a particular track, there must be absolute commitment on the part of the student not to switch tracks, ensuring this requires some counseling on the part of the faculty members.</p>
8	<p>It looks okay if some students are interested in doing more coursework, however, the programme may ensure that there are some project-based courses/ term papers</p>	<p>There is a gap in terms of not having any core or elective course of climate change</p>	<p>4 courses in a semester is quite standard.</p>	<p>I feel a student who will do only coursework in an Institute like TERI that is popular for its applied research, will be actually in a bit disadvantageous position. The gap can be filled in by a term-paper course/ Group project, etc.</p>	<p>There may be a clear sense that a Master's Thesis is intended for those who would like to do research.</p>

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9	I think compulsory research track is better; though the students may perform poorly in theory paper (on research methodology), they may do well empirically.	I don't find any major gap	The course load is appropriate	No	No. Compulsory research track is important
10	Yes, there is a need for exposure to practical situations in environment and ecology. This exposure could be in the form of a research project/methodology.	Your course coverage seems to be complete, however, I suggest to include "History of Economic Thought" as a course with 2+0 credits, or it can go as a part of some courses mostly development economics. History of economic thought traces or documents the development of economics as a discipline and a student of economics must be aware of its growth and development.	Yes. There should be reading as well as discussion in the class either in the beginning or end of the class on topics assigned to students. There should some percentage of marks for this exclusively in terms of participation in the discussion.	Economics is both positive and normative, therefore, some form of practical exposure like research project would be better in the interest students instead purely course track option. has turned out to be both normative	Yes. Yours structure does not contain any course on practical economics, although some of these issues will be covered in microeconomics. Still it would be better to include a course on production economics. For example, I would suggest to include a course on Programming or optimization techniques which is an important tool. I feel yes your program should imbibe students to take up practical studies, but higher studies like a doctoral program, for which research methodology becomes required at MSc level. One can count pure courses track as recommended.
11	Yes, it does. In fact, I have not reviewed the earlier version in detail. The link for the previous structure gives limited information. . Hence, my comment is for the present structure which appears to me as very rigorous and offers flexibility and options.	Sorry, I have not viewed other core courses.	16 to 18 credit course appears to be little lengthy. Since the other courses may also be heavy, but a balanced view can be had only after looking at the entire program.	Course track options lead to better prospects in teaching line. Research track widens the scope to research areas. Market research is the future and hence research track may offer better opportunities.	Yes, indeed.

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14	Yes the proposed changes in the program structure satisfies the objectives better. It certainly gives students plenty of options to choose from.	Yes. The fact that students can opt for elective from other programmes will effectively address this issue.	Yes	I think so. It all depends on what courses students opt for.	Yes it will certainly help. of courses such as energy economics, game theory applied econometrics m strengthen the research among the students
15	Yes	You may consider adding a course on the critiques of environmental economics. For eg. the de-growth school of thought	Yes	It will be good for the students	Yes
16	The innovation seems timely and may further strengthen the programme to fulfill the programme objectives.	No. Nothing in particular to be noted.	It is appropriate and follows the structure and weights in other Institutiona	Yes.	The career goals of student and depends on various factors. The curriculum and pedagogy of the last qualified course of the programme changes the decisions by a fine margin. The proposed structure will not affect students at the beginning of the course and those who remain to contribute to research can opt for the options according

Ongoing Students Feedback 2020

S.no	Start time	Name of the student	Semester	In your opinion, is there any shortcoming in the programme structure and contents that you are pursuing to enable a M.Sc.	Do you think the previous programme structure fulfills these	Rank the following distribution of credits across the four semesters to fulfill these requirements	Add a line in support of your ordering above ranking?	Do you like more option of electives to be offered in the third semester?	Given the new structure where we do not have electives in the fourth semester, do you feel we need to include electives	D
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							constrained.		not do so must be available.
2	1/22/20 15:19:10	Sonali Malhotra	4th	Yes, after pursuing this course we are more suitable for research jobs and not corporate.	No, this structure is better but choice of electives can be given in 2nd semester as well.	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-20-20;16-20-24-20;	the existing distribution is fine.	Yes	No
3	1/22/20 15:20:10	Yashi Puri	4	The subjects in the initial semesters could be increased and instead of 4 subjects in the first semester, more subjects could have been pursued to enable us to study more subjects which could have enabled us to have our hands in the corporate world as well.	To some extent, the previous structure had option of studying an extra subject in the last semester as it was compulsory, so there was an edge over the current programme pursued by us.	The previous distribution 20-20-20-26;The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;	As mentioned above as well, for me more subjects would have been offered to us.	Yes	Yes for sure.
4	1/22/20 15:22:44	HIMANI JAIN	FOURTH	The type of research job it makes us capable of requires work experience everywhere. there are only few places where we can apply and even it is not exactly the profile we want.	no. 1.4.1.132	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-24-20;16-20-20-20;	i am fine with the existing distribution of credits.	yes.	2 electives should not have been mandatory in third semester. there should be a choice given to students if they want to have it in third or in fourth semester

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6	1/27/20 18:42:16	Saloni Agarwal	Fourth	The course structure needs some improvements regarding the division of the subjects over the two years. The course is pretty rigorous and helps one to prepare for future engagements. Also, many courses that were essential for the understanding of the thesis were offered late in the semesters which blocked many good topics that could have been pursued as a master's thesis.	In my understanding, no.	16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;The existing distribution 16-16-20-20;	The load for the semesters should be divided more evenly. The sudden increase of burden in the third semester is too hectic to handle. Better division with more electives also helps students to select subjects as per their interests.	Courses like Econometrics and Time Series can be merged and offered as one subject. More options should be provided in the third semester.	A choice of electives should be offered to those who are willing to take a course in the fourth semester to keep themselves in the university.
7	1/27/20 18:10:11	Abhishree	Fourth	As such no. There is lot of emphasis on providing research base through literature reviews and essays. Also, the Econometrics course is helpful for linking theory to practical.	Not much idea about the previous structure, however, existence of courses along with the Master Thesis in the previous structure would make it slightly more difficult to focus on the thesis. 1.4.1.133	16-20-20-20;The existing distribution 16-16-20-20;16-20-24-20;The previous distribution 20-20-20-26;	Courses like Environmental Economics can be taught in the second semester to get a better understanding of applying the methods in the practical world. This would help in choosing a topic for the thesis for the third semester.	No. The existing options seem fine. However, taking one elective instead of two seems more comfortable given we have to submit the thesis proposal as well.	The existing structure is fine as electives in fourth semester would not be easy to balance with the Master Thesis.

1.4.1.F.

9	1/30/20 0:58:43	Mrigakshi Tandon	Fourth	<p>The way the program was structured was great but there were some problems that was faced by us. One was the choices of electives in third semester as we wanted to gain knowledge on some more subjects but due to the restriction on the number of electives we were only able to take 2 out of 5 . Second, the time allotted to the core subject Environmental Economics was less compared to the syllabus. In less amount of time we had to cover a huge syllabus which was not quite possible if we have to have a in depth knowledge of the subject. Thirdly it will be beneficial for the students if in Methods of Research course we are able to talk to the other teacher for our thesis ideas than a single professor. If in MRE we would have got inputs from all the teachers then we would have been better off.</p> <p>Also the Environmental Economics subject should be taught as a core subject in the second semester instead of third so that the</p>	<p>No, the programme structure provided to our batch is way more better than the previous batch. This structure is perfect for preparing us for the job market but it needs some modifications.</p>	<p>16-20-20-20;The existing distribution 16-16-20-20;16-20-24-20;The previous distribution 20-20-20-26;</p>	<p>This ranking will improve the scope of the structure in terms of subjects offered.</p>	<p>No. The options offered are sufficient but, either the choice of electives should get distributed in the second and third semester or one of the core subject should be shifted to the second semester (Preferably Environmental Economics) .</p>	<p>No. The choice of electives in the fourth semester should not be a compulsion as it gives us time to go on the fields and work on our thesis.</p>
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1.4.1.F.

10	3/11/20 12:19:05	Tarul Jain	4th	I am aware of the fact that we are supposed to do our primary surveys in this semester, but I feel that some subjects can be taught in the thesis semester as students are quite free during this period. Also the course research methodology can be refined a bit more so that it is more useful for the students. Apart from that I feel it is an amazing course!	Yes, Definitely.	The previous distribution 20-20-20-26;16-20-24-20;16-20-20-20;The existing distribution 16-16-20-20;	It is important to have subjects in the final semester.	Yes. Also Environmental economics should be aught in second semester instead of the third considering the course includes various research methods which were not useful for us. The reason being that we were expected to present a lot of things in the research proposal before it were taught to us.	Yes. It is important that we have at least two courses in the final semester.
11	3/11/20 12:34:07	ROHAN MAHAJAN	4	No.	No.	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	.	Yes	Yes. For those who wish to study some courses.
12	3/11/20 12:28:43	Srishti bagadia	4th	Not as such, the program is research oriented and prepares the students with a practical approach to make their career in this.	No	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	The existing distribution gives any student time to adjust to masters and the credit requirement offered is in accordance with the semester course.	No	Yes, some of the subjects offered as electives in the third semester could have been offered here in the fourth
13	3/11/20 12:37:28	Himani Jain	fourth	1. Thesis should not be a mandatory component. 2. more software should be taught.	no 1.4.1.135	The existing distribution 16-16-20-20;The previous distribution 20-20-20-	I'm fine with the existing distribution	yes	yes

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				of research.			second semester could add one more core paper on the techniques for environmental valuation to assist in thesis.		
15	3/11/20 12:55:08	Ayushi Khurana	4	Giving an option to opt for various electives Semester 2 onwards	Yes, they had electives in semester 4	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	Distribution of credits and pressure	Yes but not at the cost of additional credits.	Yes they should be.
16	3/11/20 13:14:43	Sonali Malhotra	4th	Yes, the choice of subjects should be given from second semester.	I am unaware of the previous program.	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-20-20;16-20-24-20;	I like the existing program with less number of credits to complete.	Yes	No
17	3/11/20 13:17:11	Megha Kapoor	Fourth	Alot of theoretical knowledge is provided and less practical knowledge.	yes	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	Credits should be uniformly distributed. All the burden should not be passed on the last semester.	yes	NO
18	3/11/20 17:33:19	Yashi Puri	4	Adding some more optional courses in the second semester would have been more helpful.	Yes 1.4.1.136	The previous distribution 20-20-20-26;16-20-20-20;The existing distribution 16-16-20-20;16-20-24-20;	The previous system offered more courses and some additional field-specific courses in the	Yes	Definitely Yes.

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20	3/11/20 21:15:09	Debanjali Dasgupta	4	No	No	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-24-20;16-20-20-20;	More electives in the third semester would be beneficial for the students while pursuing their thesis	Yes	No
21	3/11/20 22:45:06	KOMAL JUNEJA	SECOND	Econometrics should be included in the first semester to enable a better understanding of the research papers	I feel our course structure is better	The existing distribution 16-16-20-20;16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;	Given the focus of the course, more weightage should be given to the core research work.	Yes	no
22	3/12/20 14:07:52	Anoushka Chauhan	Second	We are very satisfied with the course structure and its standards. I however feel there is less time to go deep into the subject. With too many assignments and back to back exams we are just rushing through everything. The assignments and submissions are interesting and very helpful. It is the dearth of time which affects my productivity. I would prefer exams at preferably longer intervals.	Not sure about the same.	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	I have no issues with the existing credits distribution.	Yes	Yes.
23	3/12/20 21:34:07	Omjee Shukla	Semester - 2	As such there are no short-comes, but on hand	Our previous batch had the	The existing distribution 16-16-20-20;16-20-20-20;The	First semester should be	Yes	Yes, but they should be audit in

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							even environment and curriculum at the same time.		
24	3/13/20 11:00:53	Nayanika	2nd	I feel like maybe some of the subjects go into too much detail(like growth economics) for them to remain relevant to the program. Other than that, for someone pursuing research, the course structure is excellent!	No.	16-20-20-20;The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-24-20;	The second semester is rigorous, it should at least be given the same weightage as the third semester (which we've heard is harder)	Yes	No, I think dedicating an entire semester to the dissertation is necessary.
25	3/13/20 11:08:59	Anushka Saxena	2	No	I am not sure	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-20-20;16-20-24-20;	It reduces the load of having five subjects in the semesters	Yes	Yes
26	3/13/20 11:20:21	ANSHIKA SINGH	2	Yes, there are so many assignments and deadlines that instead of learning anything from it , more focus is on just completing it for the sake of it and hence there is no quality learning . It's good that our teachers expect us to read many references and supplement our literature reviews and surveys but it's not just about reading	In last semester we had only written exams and not so many assignments , so I can't comment on this 1.4.1.138	The previous distribution 20-20-20-26;The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;	What I feel is that I initially we can learn and work on our knowledge base and then in the last semester we do only the application work and that should be	Yes, something realted to finance and international markets , more relevant subjects when considering job options associated with Economics	Can introduce , subjects which supplement our thesis efforts or job prospects

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				<p>and instead of feeling enriched with knowledge one feels always worked up and all the enthusiasm is gone.</p> <p>My suggestion is that it's really good , the things we are being taught but quantity of assignments needs to be reduced to get a better quality. Burdening up with plethora of assignment and at the same time focussing on written exams won't fetch any efficiency. One needs to keep oiling a machine called brain to work better , only robots can work on algorithms.</p> <p>Also, there is a need to add subjects which dealing with finance or the once which has more application in the practical world. Economics which we can actually apply and get good jobs.</p>					
27	3/13/20 10:54:44	Sukhmani Kaur	second	<p>Econometrics could be done in the first semester alongside Statistics. My argument for this is that the course is greatly helpful in understanding research papers since econometric tools are heavily used.</p>	<p>I don't know the previous structure, except for the credit system given in the next question, my preference for which I have indicated</p>	<p>The previous distribution 20-20-20-26;16-20-20-20;The existing distribution 16-16-20-20;16-20-24-20;</p>	<p>Having some elements of the currently designed second semester in the first semester would be a good idea</p>	<p>I am fine with the options available</p>	Yes

1.4.1.F.

							students adjust better. Written assignments (as in the ones that require us to read, think and write such as critical reviews, summaries, etc must be encouraged right from the beginning.		
28	3/13/20 13:04:15	Manpreet Kaur Suri	Second	Contents are good but due to back to back submissions we are not able to concentrate on each assignment properly.	No	The existing distribution 16-16-20-20;16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;	It is distributed more evenly	No	No
29	3/13/20 15:11:58	Nupur Ahuja	2nd Semester	Yes. The course being more research focused, overlooks the other prospects due to which people end up in jobs and internships which are more research oriented. Technical aspect is missing.	Not really. It looks like the course structures are built such that the programme tends to be more rigorous in both the years than was expected after redistribution of credits this year. 1.4.1.140	The existing distribution 16-16-20-20;16-20-24-20;16-20-20-20;The previous distribution 20-20-20-26;	It needs to be more equally distributed across semesters. More weightage for the semesters with major works.	NO. Instead it would be a good idea to convert a few core subjects into electives to help reduce the burden that falls on a student majorly in the 3rd semester.	A few core courses in 3rd semester could be assigned in the 2nd semester and then introducing the thesis work and electives in the 3rd semester only would be of great help.

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				The only short-coming is in the delivery of the curriculum. It can be made better with a little effort.			an equal distribution from semester two to ease the transition. Also, this increased credits would let one take up more courses than offered right now.	semester two were not as per everyone's interest. Changing the optional electives would let students select the ones that they are most interested in studying.	would help them stay connected to the course and the university for the last semester.
31	3/16/20 17:36:56	Kasvi Singh	Two	The courses of microeconomics and growth economics in the first and second semester respectively are very abstract. They can be modified to help the students understand their applicability better. The statistics course in the first semester can also give more weightage to software and program learning for better professional prospects for the students.	Not aware about the previous programme structure.	The existing distribution 16-16-20-20;16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;	The present distribution seems practical and manageable given the limited time that one can give to each subject in one semester.	The electives seem sufficient.	If there is a compulsory master thesis, then keeping electives may not be that useful or may not be utilised by most students.
32	3/18/20 12:07:03	Vibhuti Chitkara	2nd	No	No	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	Less Stress	Yes	No
33	3/18/20 12:02:00	Ritika Goenka	Second	There is no shortcoming. The program is well	I liked the	The existing distribution 16-16-20-	In a new	Yes, it will be nice to have	Yes. Since we have

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									base in new fields. or it could be, optional to choose electives in the 4th semester.
34	3/18/20 12:18:07	Gursparsh Kaur	2nd	Yes. I think an internship programme should be made mandatory with assigned credits in the 2nd semester.	No.	The existing distribution 16-16-20-20;16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;	The current structure is fine.	Yes.	No.
35	3/18/20 12:17:14	Simran Kapoor	Second	In my opinion the only shortcoming of this course is that we don't get the exposure to the practical world. Therefore, some kind of internship programme should be included in the course structure.	No	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	I am satisfied with the present credit system.	Yes , I feel like addition of some more elective options would be really helpful like financial economics, advanced mathematics, managerial economics etc.	No
36	3/20/20 14:48:00	Rithvik Kumar	4	Yes, I feel the curriculum has to teach us to be more comfortable with working with statistical softwares and large databases	No	16-20-20-20;The existing distribution 16-16-20-20;16-20-24-20;The previous distribution 20-20-20-26;	I don't believe that credits are exactly equatable to rigor. As per the current pattern, the first semester is quite rigorous despite being only 16 credits, so that must remain.	Yes. I would prefer 3 or 4 options among a set of 7 electives	No. The current system allows students to carry out more extensive field surveys
37	3/21/20 11:25:44	SWOSTI SUBHRAJYOTI SANGH	2	The institute should offer some field work for the students interested in it.	No	The existing distribution 16-16-20-20;16-20-24-20;The previous distribution 20-20-20-26;	Helps to get accustomed with the	Yes	No.

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38	5/28/20 13:35:16	Devina Chaturvedi	4	<p>Structure:</p> <ul style="list-style-type: none">- Programme requiring credit requirements to be fulfilled by atleast 4-5 electives across 2-3 semesters could be helpful.- Data and related issues could be introduced in 2nd sem. This would help more in methods for research economics in 3rd sem. <p>Contents:</p> <ul style="list-style-type: none">- Practical aspects should be incorporated with regards to data collection, sampling, determination of sample size etc.- from employability perspective, an elective on ESG concept and some financial economics part, for those interested in joining corporates would be really helpful. Perhaps something like Environment, Finance and Law for Economists.	I have limited knowledge of the previous structure so cannot comment on this.	16-20-24-20;16-20-20-20;The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;	16-20-24-20 with electives in sem 2 and 3 More than 80 credits would be too much load. Less than 80 credits would either rush the course, limit number of electives, or require cutting down of content.	Yes. As well as in second semester.	<p>It might not bode well, however one might want to consider giving students the option to do a 20 credit thesis in 4th sem, or 8 to 10 credits of other academic writing (collection of essays, systematic reviews, policy documents, etc.) + Remaining credits in elective courses. This would allow students to get the maximum benefit out of the programme, depending on the employment opportunities they wish to seek in the future.</p> <p>One might even consider Major projects - in association with research organisations instead of a thesis - like it is there for other courses. It would give more practical</p>
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39	5/28/20 13:34:13	Kunwarpreet Singh	Second	The course structure is set in a way that it is really good for someone who wants to further their career in research but it becomes very restrictive for someone who is not sure about research or changes their mind about it during the course.	I don't know the hoe the program structure was before the change.	The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;The previous distribution 20-20-20-26;	The current distribution of credits seems fine.	Yes, I would like the option of behavioral economics as an elective in third semester.	I would suggest a choice be given between additional courses (which can include electives) and a thesis.
40	5/28/20 14:02:20	Abijeet Singh	4	With the restructuring of the programme, many essential courses were delayed to the subsequent semester; thus restricting the understanding and application of such courses in the thesis and job application processes.	Yes	16-20-20-20;The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-24-20;	With the second, third and fourth semester evenly paced, the student is able to fulfil the programme requirements better across the semesters; second semester is quintessential in preparing the student for the upcoming thesis process and completing required courses for it.	Yes - provided essential courses are covered in second	Yes - but only for those lacking in credit points (as done in foreign universities)
41	5/28/20 20:28:49	Ria Srivastava	Second	No shortcomings	No	The existing distribution 16-16-20-20;The previous	The existing distribution gives more	Yes	No

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43	5/29/20 19:52:34	HARMEEN KAUR	2	No, shortcoming	No	The previous distribution 20-20-20- 26;The existing distribution 16-16-20- 20;16-20-20-20;16-20- 24-20;	-	yes	No
44	5/31/20 22:14:28	Deeksha Agnihotri	4	The program structure is good. Our curriculum is exceptional and unique. Our teachers are amazing. However, once you're done with the course you don't get enough opportunities.	No	The existing distribution 16-16-20- 20;16-20-24-20;The previous distribution 20-20-20-26;16-20-20- 20;	3rd sem and the 4th sem have the most workload and it should be reflected in the credits	Yes, 3rd as well as the 2nd sem should have more electives	Yes, electives in the 4th sem would have been beneficial to us. The classes could have been arranged in order to accommodate students' survey schedules
45	5/31/20 22:14:36	Arijeet Krishna Srivastava	4th	The programme structure is good as different statistical softwares like R and Stata are taught. However there are not enough corporate placements where these softwares are beneficial. Moreover, different types of methodologies should be taught in 2nd semester so that students can benefit during thesis topic and learn about its	No	The existing distribution 16-16-20- 20;The previous distribution 20-20-20- 26;16-20-20-20;16-20- 24-20;	As the 3rd semester has the highest workload, it is reflective in its credit distribution.	Yes, so that students can choose according to their interest.	No, the last semester should be reserved for thesis only as it is better to allocate time for primary survey

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47	6/3/20 19:32:49	Tarun Mehta	3	It's perfect. Just I couldn't figure out the place of Growth Economics in the entire curriculum and its connection with the rest of the subjects that we did in the second semester. I do understand that basics of growth are required to understand the other literature we read; but giving a full semester to it seems far too much than is actually required.	I'm not aware of the previous program structure.	The previous distribution 20-20-20-26;The existing distribution 16-16-20-20;16-20-20-20;16-20-24-20;	I feel the present system is just fine in this respect.	I don't know the previous structure, so again I'm not in a position to understand what's meant by "more" and, hence, am not fit to answer this question.	I'm indifferent.
48	6/3/20 19:31:43	Thanancheyan Devendran	2	No	No	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-20-20;16-20-24-20;	The existing distribution is better	Yes it would be better	No
49	6/4/20 12:24:25	Gopalika	4	There are no shortcomings as such. The professors were great and the course structure was fine.	No. The previous program structure was rather stressful.	The existing distribution 16-16-20-20;The previous distribution 20-20-20-26;16-20-24-20;16-20-20-20;	-	No the electives offered were fine.	There is no need as such to include the electives but they can be included for people who further need any help regarding their thesis.
50	6/4/20 12:54:35	Ashruth Talwar	2nd	No	Not aware 1.4.1.146	The existing distribution 16-16-20-20;16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;	Current distribution seems fair	No	No
51	6/4/20 12:22:22	Tavisha Dua	4	No	No	The existing distribution 16-16-20-20;16-20-20-20;The previous distribution 20-20-20-26;16-20-24-20;	The existing distribution is better	Yes definitely. And in fact of the electives	No. Thesis is efficient for the

Programme Restructuring and Detailed Course Review

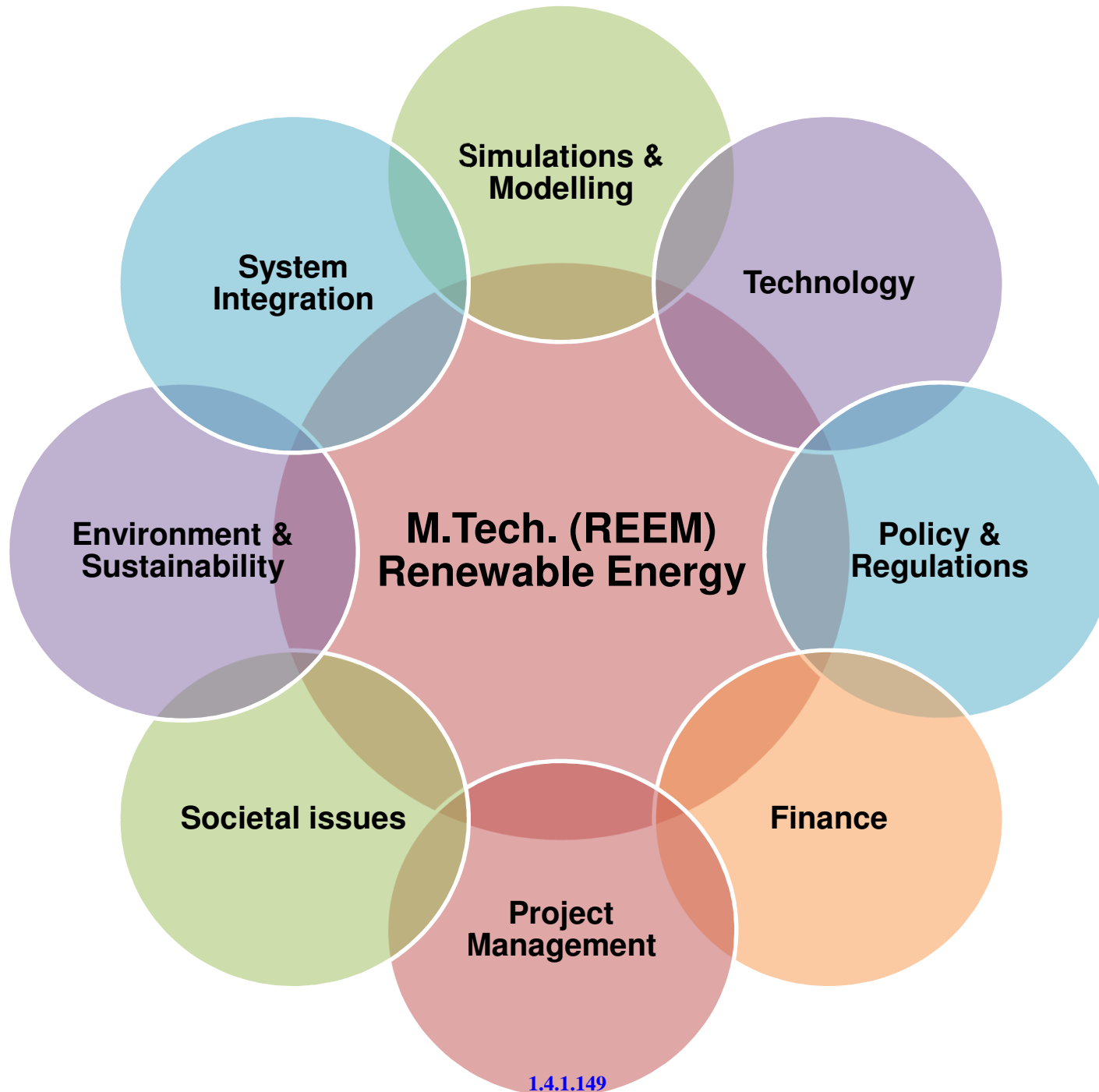
M.Tech (Renewable Energy Engineering and Management)
Department of Energy and Environment

40th Academic Council Meeting
TERI University
July 05, 2017

1.4.1.G. M.Tech (Renewable Energy Engineering and Management)

Salient Features

- The programme seamlessly integrates different domains related to RE which include technology, policy & regulation, environmental & societal issues, economics & finance, project management and system integration.
- The programme facilitates a systematic consolidation of widespread knowledge to foster learning through an interdisciplinary approach and experiential learning.
- The programme is delivered through a diverse pedagogy including classroom teaching, invited talks, laboratory work for practical training, industrial exposure involving interaction with professionals and experts as well as on-site visits, and a hands-on industrial experience.



M.Tech (Renewable Energy Engineering and Management)

Learning Outcomes

The MTech REEM programme is devised to enable students to:

1. Undertake design, analysis, resource assessment and management of RE technologies
2. Apply knowledge of mathematics, economics and engineering for comparative technology evaluation
3. Apply optimization methods to energy system planning and operation
4. Prepare comprehensive technical reports and technical notes
5. Carry out feasibility analysis and due diligence of RE opportunities
6. Analyse and design energy policies
7. Carry out energy audit for an entity and identify appropriate energy efficient alternatives

Existing Programme

- M.Tech. – Renewable Energy Engineering and Management
- Duration: 4 Semesters including 2 months of summer internship (minor project) and 1 semester of Major Project* at Industry/Institute
 - Industry relevant project report with co-supervision one from industry/institute and one from TERI University
 - *However, lack rigorous academic research output as a Master Dissertation
- Credit requirement:
 - Core : 68 credit (20 Courses), Elective: 12 Credit (4 Courses), Major Project: 18 Credit
 - Compulsory institute course: 1 Credit (Introduction to Sustainable Development)
 - Total: 99 Credit, Equivalent: 1386 learning hours
 - Core courses include Summer Internship: 4 credit and Field visit: 1 Credit
- Electives are offered only in the third semester
 - Four elective courses to be selected from a total of nine elective courses
 - Electives are designed to offer specialization as per students' interest

Existing Programme

- One of concern voiced higher credit requirement as compared to other programme in TERI University
 - In India some institutes have lower credits
 - IIT Delhi : 60 Credit, MNIT Jaipur : 72 Credit, Tezpur University: 72 Credit
 - and some have higher
 - IIT Bombay 161 Credit (80 credits for projects)
- In addition students in IITs/ NITs spent about 10 hrs per week on research/administrative work as assistantship in department
- Typical 2 Years Masters with research programme in Europe contains 120 credits: 3100-3600 hrs work load (which include 50% self learning) European Credit Transfer and Accumulation System (ECTS)

Purpose of restructuring of Programme

- Key questions
 - Avoid overlaps across courses where necessary
 - Due to diverse academic (course) background of students, strengthening the foundation courses
 - Introduction/removal of some courses as per placement prospect, current R&D trend (to encourage research)
 - Strengthening of laboratory facility and introduction of more advance experiment covering most of area of renewable energy. So far these are limited to power system and heat transfer and also of very elementary level
 - Should we reduce/increase credits ?
 - Provide better scope for specialization
 - Strengthening experiential learning
- Inputs are taken from
 - Faculty members
 - Industry experts
 - Alumni
 - Existing students

Existing Programme Structure

Course length : 2 years / 4 semesters
 Total credit : 98
 Credit distribution : 1st semester – 26
 2nd semester – 27
 3rd semester – 17
 4th semester – 18

Semester 1

☐ 8 Core Courses

Sr. No.	Course Name	Type	Course Type	Credit Value	Course Code
1	Conventional energy infrastructure	Core	CREDIT	4	ENR 133
2	Power systems engineering	Core	CREDIT	4	ENR 135
3	Renewable energy resource characteristics	Core	CREDIT	4	ENR 122
4	Statistics for engineers	Core	CREDIT	2	ENR 174
5	Heat and mass transfer	Core	CREDIT	6	ENR 137
6	Heat transfer laboratory	Core	CREDIT	2	ENR 186
7	Power system laboratory	Core	CREDIT	2	ENR 188
8	Technical writing	Core	CREDIT	2	NRE 101
				26	

Existing Programme Structure

Semester 2

☐ 8 Core Courses

Sr. No.	Course Name	Type	Course Type	Credit Value	Course Code
1	Thermodynamics	Core	CREDIT	4	ENR 131
2	Applied numerical methods (through MATLAB)	Core	CREDIT	4	ENR 172
3	Energy auditing, energy efficiency and energy conservation	Core	CREDIT	6	ENR 114
4	Fluid mechanics and turbomachinery	Core	CREDIT	3	ENR 139
5	Renewable energy conversion technologies-I	Core	CREDIT	4	ENR 124
6	Renewable energy conversion technologies-II	Core	CREDIT	4	ENR 126
7	Introduction to management techniques-I	Core	CREDIT	1	ENR 185
8	Field visits/Exposure to RE Plants	Core	CREDIT	1	ENR 103
				27	

Existing Programme Structure

Semester 3

☐ 4 Core courses + Summer Internship (4 credits)

☐ 4 Elective courses

Sr. No	Course Name	Course Type	Credit Value	Course Code
1	Project Management	Core	3	NRG 103
2	Energy Economics	Core	3	ENR 161
3	Introduction to Management techniques – II	Core	2	ENR 183
4	Energy policy and regulations	Core	3	ENR 138
5	Minor project/ Summer internship	Core	4	ENR 106
6	Renewable energy and fossil fuel based thermal power generation	Elective	3	ENR 129
7	Issues in grid integration of power from renewable energy sources	Elective	3	ERN 121
8	Building energy and green building	Elective	3	ENR 115
9	Waste utilization	Elective	3	ENR 141
10	Wind power generation	Elective	3	ENR 113
11	Solar thermal and solar photovoltaic power generation	Elective	3	ENR 136
12	Biofuels and decentralized energy systems	Elective	3	ENR 163
13	Smart grids	Elective	3	ENR 128
14	Advanced technologies for environmental protection and climate change	Elective	3	ENR 134
			27	

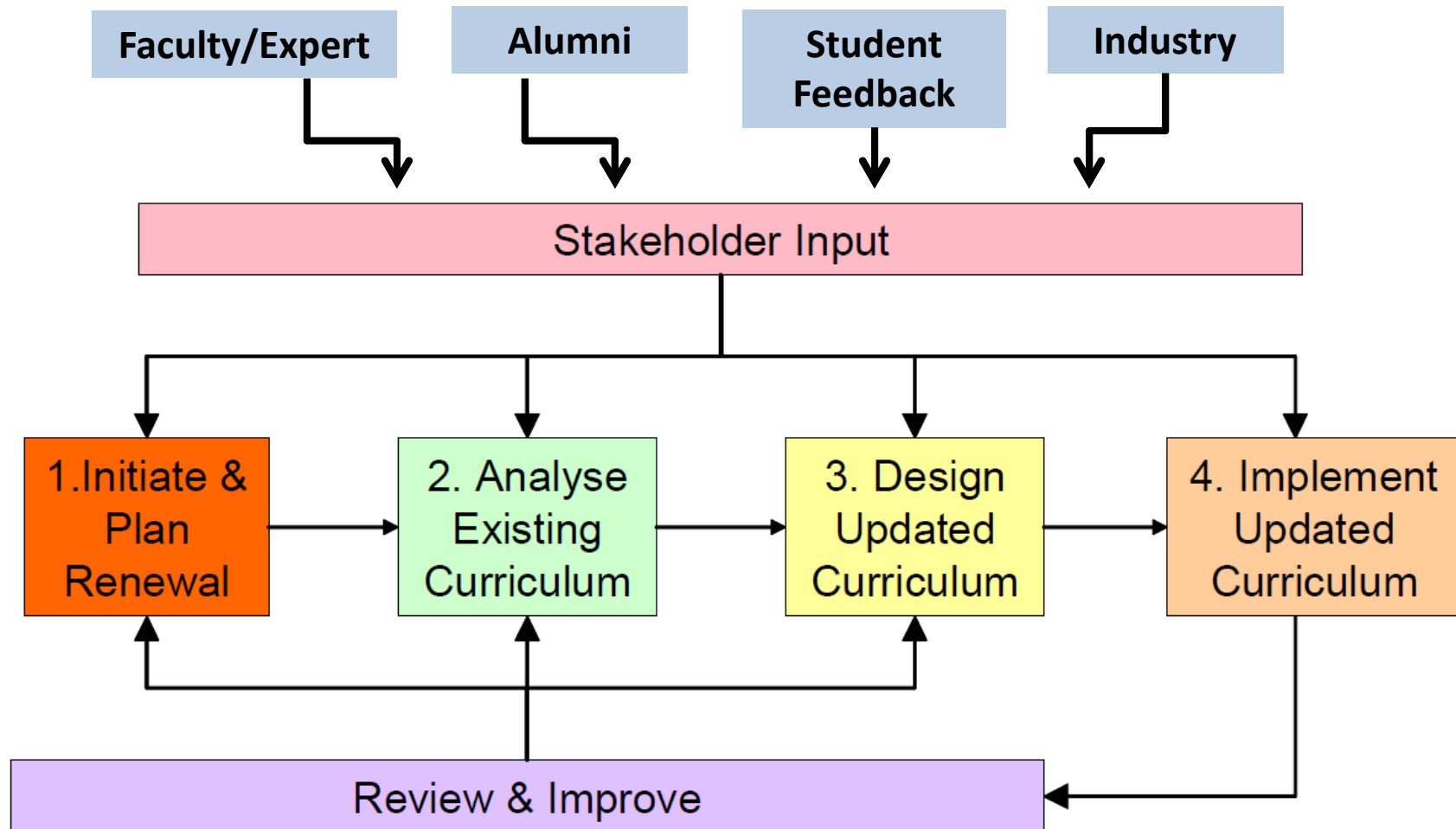
Existing Programme Structure

Semester 4

☐ 1 Core course

Major Project / thesis work – ENR 104 (18 Credits)

Curriculum Review Framework



Programme restructuring and Syllabus review

Activities	Semester	Courses
Course work	Semester I	Foundation courses
		↓
	Semester II	All aspects of renewable energy technologies
		↓ Summer Internship/ Minor Project in Industry
	Semester III	Specializations
		↓
Dissertation	Semester IV	Project work in Industry

Changes in First semester

- Fundamentals of thermal and electrical engineering
 - A new core course of 2 credits has been introduced
- Statistics for engineers
 - Merged with course Applied Numerical Method, and some portion on new course Optimization techniques for energy management and planning
- Power system engineering
 - Reduction in credits from 4 to 3
- Heat and mass transfer
 - limited to heat transfer
 - Reduction from 6 credits to 4 credits
- Conventional energy infrastructure
 - Renamed as “Conventional energy and environmental implications”
 - Reduction from 4 credits to 2 credits
- Energy conservation and management
 - New Course of 2 credits
 - Split from the course “Energy audit, energy efficiency and energy conservation”

Changes in First semester

- Introduction to management techniques – I
 - Moved to 1st semester from 2nd semester
- Merging of Heat transfer lab and Power system lab
 - New course “Energy Lab – I” introduced: 2 credits
- Change in Credit from 26 to 22

Changes in Second semester

- Renewable energy conversion technologies-I
 - Renamed as “Solar technologies”
 - No change in credits (4 credits)
- Renewable energy conversion technologies-II
 - Splitted into two new courses
 - “Wind, small hydro and RE hybrid systems” of 2 Credits
 - “Biomass and other renewable technologies” of 3 Credits
- Renewable energy project management
 - The course “Project management” has been replaced with this course
 - Moved to 2nd semester from 3rd semester
- Energy audit, energy efficiency and energy conservation (6 credits)
 - Splitted into two new courses
 - Core course “Energy conservation and management” in first semester of 2 credits
 - Elective course “Energy audit” in third semester of 3 credits
- New Courses introduced
 - “Optimization techniques for energy management and planning” (3 credit)
 - “Energy Lab – II” (3 credit)

Changes in Second semester

- Thermodynamics
 - This course is dropped
 - Basics of thermodynamics has been introduced in the course “Fundamentals of thermal and electrical engineering”
 - Application of thermodynamics is included in a new elective course of 3 credits “Solar Thermal Power Generation” in 3rd Semester
- Optional Courses
 - Credits acquired through optional courses will be counted in addition to the overall programme credit requirement of 77
 - Optional elective courses are useful for R&D
 - Two courses are considered as of now
 - Fluid mechanics and wind turbine models
 - Also replaces the compulsory 4 credit course “Fluid mechanics and turbomachinery”
 - Applied numerical methods
 - Also replaces the compulsory 4 credit course “Applied Numerical Methods (through MATLAB)”
- Change in Credit from 27 to 22

Changes in Third semester

- Summer Internship/Minor Project
 - 6 to 8 weeks of industry learning
 - Reduced from 4 credits to 2 credits
- Energy simulation lab
 - New compulsory course of 3 credits
 - Includes modelling and simulation of renewable energy technologies and their applications
 - Determination of performance analysis of various renewable energy aspects using various softwares
- Solar thermal and solar photovoltaic generation
 - Splitted into two new elective courses of 3 credits each
 - “Solar photovoltaic power generation”
 - “solar thermal power generation”
- Grid integration of renewable energy
 - Renaming the elective course “Issues in grid integration of power from renewable energy sources”
 - No change in credit (3 credits)
- Energy audit
 - New elective course of 3 credits splitted from the course “Energy audit, energy efficiency and energy conservation”

Changes in Third semester

- Waste to energy
 - New elective course of 2 credits replacing the elective course “ Waste management”
- Independent study
 - New elective course of 3 credits
 - Designed to provide hands on practice in a research project mode
 - To work under the supervision of a panel of faculty members/experts and in small team in time bound assignments
- Courses dropped
 - Advanced technologies for environmental protection and climate change
 - Smart grids
 - Seeing the nature of these courses and not having direct relation to specialization in the field of renewable energy
- Students are required to acquire 15 credits in 3rd semester which includes 6 credits from core courses and 9 credits through the electives
- Introduction to management techniques – II
 - It is made elective without any change in credits
- Change in credit from 27 to 15

Changes in Fourth semester

- Major Project/Dissertation
 - Reduced from 18 credits to 16 credits
 - In line with other M.Tech programmes of TU
- Change in credit from 18 to 16

New Programme Structure

with overall credits reduced to 77 from 98

Programme : M.Tech (Renewable Energy Engineering and management)

Course length : 2 years / 4 semesters

Total credit : 77

Credit distribution : 1st semester – 22

2nd semester – 223rd semester – 174th semester – 16

Semester 1

❑ Eight core courses

S. No.	Course Name	Core/ Elective	Credit(s)	Faculty Coordinator	Remarks	Course code (tentative)
1	Fundamentals of thermal and electrical engineering	Core	2	Dr. Naqui Anwer	Bridge course	
2	Renewable energy resource characteristics	Core	4	Dr. Priyanka Kaushal	No change	ENR 122
3	Power system engineering	Core	3	Dr. Naqui Anwer		ENR 135
4	Heat transfer	Core	4	Dr. Som Mondal	Earlier 6 credits	ENR 137
5	Conventional energy and environmental implications	Core	2	Dr. Priyanka Kaushal	Earlier 4 credits	ENR 133
6	Technical writing (Communication skills and technical writing)	Core	2	Ms. Namrata Yadav	No change	NRE 101
7	Energy conservation and management	Core	2	Mr. Sapan Thapar	New course	NEW 1
8	Introduction to management techniques – I	Core	1	Dr. Ritika Mahajan		ENR 185
9	Energy Lab – I (Power system lab and Heat transfer lab)	Core	2	Dr. Naqui Anwer	PS lab and HT lab merged	NEW 2
			22			

New Programme Structure

with overall credits **reduced to 77** from 98

Semester 2

- ☐ Eight core courses
- ☐ Two optional courses*

S. No.	Course Name	Core/ Elective	Credit(s)	Faculty Coordinator	Remarks	Course code (tentative)
1	Field visits / exposure to RE plants	Core	1	Dr. Naqui Anwer	No change	ENR 103
2	Solar technologies	Core	4	Dr. Som Mondal	Earlier RECT-I	ENR 124
3	Wind, small hydro and RE hybrid systems	Core	2	Dr. Jami Hossain	Splitted from RECT-II	NEW 3
4	Biomass and other renewable technologies	Core	3	Dr. Priyanka Kaushal	Splitted from RECT-II	NEW 4
5	Renewable energy policy and regulations	Core	3	Dr. Jami Hossain		ENR 138
6	Optimization techniques for energy management and planning	Core	3	Dr. Atul Kumar	New Course	NEW 5
7	Renewable energy project management	Core	3	Dr. Atul Kumar		NRG 103
8	Energy lab – II	Core	3	Dr. Atul Kumar	New course	NEW 6
9	Fluid mechanics and wind turbine models*	Elective	3	Dr. Jami Hossain	Earlier compulsory course of 4 credits	ENR 139
10	Applied numerical methods*	Elective	3	Dr. Som Mondal	Earlier 4 credits	ENR 172
			22			

New Programme Structure

with overall credits **reduced to 77** from 98

Semester 3

☐ Three core courses + Summer internship/minor project (2 credits)

☐ Total required credits = 15 [6 Core + 9 elective]

S. No.	Course Name	Core/ Elective	Credit(s)	Faculty Coordinator	Remarks	Course code (tentative)
1	Energy Economics	Core	3	Dr. Atul Kumar		NEW 7
2	Energy simulation lab	Core	3	Dr. Naqui Anwer		NEW 8
3	Introduction to management techniques – II	Elective	2	Dr. Manipadma Datta	Earlier core	ENR 183
4	Solar photovoltaic power generation	Elective	3	Dr. Som Mondal	Splitted from "STSPV"	NEW 9
5	Solar thermal power generation	Elective	3	Dr. Som Mondal	Splitted from "STSPV"	NEW 10
6	Wind power generation	Elective	3	Dr. Jami Hossain		ENR 113
7	Biofuels and decentralized Energy Systems	Elective	3	Dr. Priyanka Kaushal		ENR 163
8	Building energy and green building	Elective	3	Mr. Pradeep Kumar		ENR 115
9	Grid integration of renewable energy	Elective	3	Dr. Naqui Anwer		ENR 121
10	Energy audit	Elective	3	Mr. Sapan Thapar	New course	NEW 11
11	Waste to energy	Elective	2	Dr. Priyanka Kaushal	Replacing Waste Utilization	NEW 12
12	Independent study	Elective	3	Dr. Suresh Jain		NEW 13
			15			

1. Students need to acquire 9 credits through electives.
2. Elective courses having less than seven students will not be offered.

New Programme Structure

with overall credits **reduced to 77** from 98

Semester 4

☐ One core course

S. No.	Course Name	Core/Elective	Credit(s)	Remarks	Course code (tentative)
1	Major project	Core	16	Credits reduced to 16 from 18	ENR 104

- **That's all for the overview**

- Complete course outlines for 1st and 2nd semester is ready
- Most of the course outlines of 3rd semester is ready and some of them are under revision
- Review of course outline for 4th semester is complete

1.4.1.G.

[Edit this form](#)

41 responses

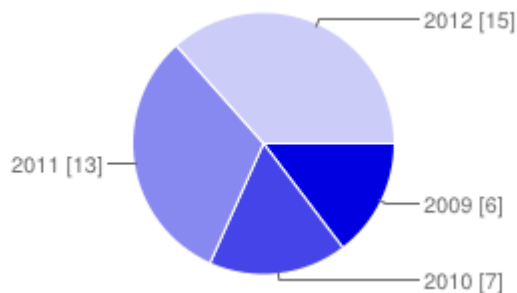
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Summary

Your Name

Pugazenthi D Pradeepkumar DV Upendra Gupta Koushik Yanamandram Chandan Kumar Sandeep Goel Shashank Vyas Priyam Kakoti Bora Shankar Ramakrishnan Shefali Jain Divija Pandel Harsh Lata Garima Singh Rahul Dwivedi Piyush Sohani Radhika Sharma Mandeep Kaur Sunil Kumar Reddy Astha Gupta Vineeth S NIHAR Vijay Mohan R Shweta Kittur Sakshi Ch.sai mounika Dattakiran J Syed Yasir Ahmad Abhishek Gaur Arun Kumar Marndi Neeraj Nair Saksham Nijhawan Ashutosh Bhat Mansi Goel Rahul Raju Dusa Aishwarya Pallavi Chaudhary Upkari Nath Tripathi Akanksha Oberoi Aditi Ahuja Ahmad Mohd Khalid Setu Goyal

Year of admission



2009	6	15%
2010	7	17%
2011	13	32%
2012	15	37%

Your current organization

Shakti Sustainable Energy Foundation, New Delhi. Inox Wind Limited Leaders' Quest Steag Energy Services (India) Pvt. Ltd. SustainEarth Energy Solutions Pvt. Ltd. THERMAX L&T MNRE Development of Humane Action (DHAN) Foundation, Madurai IICA TERI, Bangalore TERI University Gansun Global Solutions India Pvt Ltd adelphi TERI Gansun Global Solutions C-STEP Technology Information, Forecasting and Assessment Council (TIFAC), TERI University TERI, New Delhi Major Project in L&T ECC Chennai. Code Platter Software Limited TATA Lookheed Martin GIZ Enzen Global, Bangalore Chemtrols Solar Lahmeyer L&T Construction-Water and Renewable IC- Solar Rooftop and Microgrids Division -----N.A.----- SustainEarth Energy Solutions major project in Indian Institute of Science IBM World Institute of Sustainable Energy Pune Tata Power Solar KPMG Amity University, Noida C STEP, Bangalore New and Renewable Energy Department, Govt of Madhya Pradesh

1.4.1.173

1.4.1.G. Your Designation

Associate Trainee Engineer - Business Development Intern Co-Founder & Director
 Director Senior Technical Trainee Consultant (BETA division) Project Intern Executive
 Head of Business Development Project Trainee. intern Director and Co-founder PGET
 Technical Expert - ComSolar Trainee Trainee - Renewable energies Associate Consultant
 Associate System Engineer Intern at TIFAC and Final Semester Student at TERI University
 Project Manager Managing Director -----N.A.----- Research Associate Junior
 Research Fellow, DST Project Intern Graduate Engineer Trainee Project associate
 Project researcher Programme Coordinator Senior Research Associate Consultant
 Research Intern

Your job profile

Major Project Technical, financial and economic analysis, Design and development, Marketing, awareness, sales, After-sales service of Family-type biogas systems SAP BW Intern
 Currently working on a project titled, Expert Report on the opportunities and Challenges of Renewable Energy in the state of Karnataka To facilitate pilot rooftop solar PV projects by providing technical and financial advisory to organizations having potential to implement rooftop solar PV systems in a big way. In another role, I am associated in knowledge dissemination, capacity building and analyzing policy and regulatory situation related to rooftop PV in different states. Planning, Engineering, Installation and Support services for biogas projects in rural areas. Research and carry out a study on 'Technology foresight on Solar PV' with emphasis on Rural Electrification. working to design a techno-economic tool for grid connected solar pv where i can use by technical and financial knowledgeable. Industrial Energy Efficiency Research on industries generating organic waste, studying the technology providers, techno-financial feasibility of waste to energy projects in industries and organizing stakeholder workshops on waste to energy. Project developer Market research, market entry strategies for MNC's Renewable Energy policy research with focus on Offshore Wind Energy development in India. Feasibility analysis and resource estimation. -----N.A.----- Business Development Sales and Marketing Project Management Design and Engineering Execution Working on tenders, business development Study of Distributed Energy Resources and feasibility study of setting up an Industrial microgrid based on waste-powered distributed generators. Working with scientists in Wind Energy department on research proposals and data monitoring. product development & operations Not applicable Research Input, Analysis, Communication and Project support Business Development (North) - Rooftop Solar & MicroGrid Trainee in the field of energy auditing for the client of KPMG Assisting in an ongoing project - From Literature review, methodology to come up with some recommendations in Energy-Water sector. Project Co-ordinator Energy auditing Critically analysing renewable energy and energy efficiency policies of the state; review of Detailed Project Reports submitted to the department by prospective project developers; assisting in drafting proposals; stakeholder mobilisation in the state. Solar thermal plant design, feasibility studies Wind Resource Assessment Handling IT staffing and HR management Field and library research on Decentralized off-grid electricity generation in Developing countries (South Asia) Project management of RE installations Advisory

1.4.1.174

1.4.1.G. & Consultancy services - Planning and execution of Solar PV plants - Interacting with clients

A brief on your career progression after completing the MTech programme

My career has progressed more than I expected. I started with a consultancy firm IT Power as an intern and then got the job there as a consultant working on multiple assignments related to different technologies. Moving on, I decided to focus on 1 technology and chose solar PV and got a job with BRIDGE TO INDIA in the project development domain. Subsequent to this, I got a job with GIZ as Junior Project Officer working in commercialization of solar energy in the urban and industrial areas and then got promoted to a technical expert. The progression has been fantastic till now. I am trying to align my career more towards research, communication and training in the RE and EE sector (Development field). Now handling more projects than earlier and coordinating with 2 or more Project Managers (during 1st year coordinated with one only). Also, compensated well by the company after one year of job. The progress in career will be aided by the fact that I was somehow associated with TERI as people do not identify much with the university. During my course, I interned with good organizations but immediately after my course, it was difficult to decide as to which company to join as there was very little help from the campus. I worked with my father on a rainwater harvesting project and kept applying to different places on my own. I did online courses on climate change and energy and also applied for various scholarships. I couldn't clear PMRDF but cleared second round for YIF. Currently at C STEP, I am enjoying my work.

Everything going well, but we are facing problems in areas like software tools which were not properly taught and they are very much important to cope up with the current scenario. Also practicals should be there for solar PV to understand its applications properly. M Tech programme has given me proper understanding of all the renewable energy technologies. Apart from technical understanding, I've also developed a good understanding of policies governing renewable energy. This gives me an edge in the market. I am currently working in a research consultancy. The knowledge gained in M Tech definitely helps me completing the tasks assigned to me with ease. After completing M Tech, I started working with Rays Power Experts Pvt Ltd, in New Delhi from June 2012 till July 2013. From August 2013 to present, working in Amity Institute of Alternate and Renewable Energy as Research Fellow. - Its been high disorganized. However, that's been so because of my own personal and professional goals. Am not looking at a steady career growth. I worked with a biofuel start-up for two years straight after TERI univ, then joined an investment firm and now working with MNC's panning out there company/product entry strategies in different countries. Am essentially picking up on all the important skills I need to start something of my own. NA Yet to get an employment After completing M.Tech (REEM), I worked briefly as a Research Assistant in TERI University for a project on Decentralised Energy. Later I joined the British High Commission as an Advisor on Energy Policies and Climate Change. Currently, I joined my M.Tech classmate who started his own organisation which works in the areas of RE Technical Consultancy. I would like to go for higher studies and research. Learning about commercial aspects of Solar PV Industry First Job Initially found difficulty in getting a job profile of my interest. But currently liking my profile as get to know many new things. Need lot of patience in these kind of job as the projects in RE sector will be less. Joined in for major internship in 4th sem and then got recruited into TERI I joined an energy consulting organisation

1.4.1.175

1.4.1.G.

called Dalkia Energy Services Limited (DESL) as a project analyst. I worked there for a period of 15 months. After that i joined the New & Renewable Energy Department in the Govt of Madhya Pradesh M.Tech was completed in June 2013 and from September 2013, started working in TERI till date, in waste to energy sector. The course helped me during internship to understand the design and procurement purposes. Then the mgmt related Energy Economics, Project Mgmt subjects helped me in understanding how a corporate body functions. With these faculties developed I was very soon transferred to the BD division as it requires a holistic view of different related topics in this profile. Started of as an Associate consultant at Enzen Global. Promoted as Consultant at Enzen Global. Resigned at Enzen Global. Started of My own company named Gansun Global. currently executing Solar PV projects and providing consultancy for Wind energy projects. PRESENT PROFILE 2013 Tata Power Solar System Pvt. Ltd., Bangalore (August 2012-Continue) Co-Ordinator, Project Engineering & Quality NTPC & Tata Power Solar 50MW Project Rajgarh, Madhya Pradesh, India Coordinated Project Tasks among Engineering, Quality, Procurement & Project team of Tata Power Solar & NTPC. Work Profile-Identifying Project Risks, Quality Plan Approvals, Vendor Identification, Purchase & Quality Approval Negotiation, Civil & Mechanical work scheduling & planning's, Project Monitoring, Contractor evaluation, MNRE subsidy work. EXPERIENCE 2013 Tata Power Solar System Pvt. Ltd., Bangalore (Oct 2012-July2012) Executive, Industrial Engineering Solutions & Corporate Strategy Pre-bidding, Post-Bid Tendering, PV System Design & Costing, Application Development, Customer & Vendor Communication, Detailed Engineering, New Business Ventures Explore Projects Handled & Executed Handled Tenders of State Nodal Agencies, corporate customers, Major contribution in ANERT & TEDA tenders Developed Several Applications based on Excel Models for Engineering System Design Team. 2012 Tata BP Solar India Ltd., Bangalore (May 2012-Oct 2012) Management Trainee, (Product Design & Development) Solar PV Module Engineering, Cut Cell Design, Vendor Communication, New Product Development, ERP Handling Projects Handled & Executed New Module Design & Development, contribution to reduce cell accumulation in Inventory. 2012 TATA BP Solar India Ltd, Bangalore (Jan 2012-May 2012) Intern Testing and development of Power Optimizers first Ever Made in India Product, Shadow & Dust Simulation of SPV Power Plants for better understanding of loses. Cleaning System Design For rooftop and MW level (theoretical models). Hands on experience, rooftop O2G Solar PV plant Installation. Not applicable Joined a job after six months after completion of Mtech programme. After M Tech I co-founded a social enterprise working in rural energy space. Started my own private limited company along with two of my MTech classmates. I worked in Suzlon Power Evacuation department for almost two years. I handled load flow (used for grid infrastructure planning) for three states and data monitoring. Joined MNRE, wind energy division and working of small wind energy hybrid systems. Got the chance to enter industries working in the field of clean and renewable energy.

How relevant do you find the MTech REEM curriculum in your current job and career?

Course outline is very good... But Softwares & wind should have been given more emphasis MTech REEM course structure is very relevant in the organization working in overall energy sector. The course at TERI University cover all the major point in theoretical manner briefly or fully. Fairly

1.4.1.176

1.4.1.G.

relevant. Although personally I would have liked some modifications in the syllabi of a few subjects It is very good. I extensively use finance & economics and system designing, and feel good that i took admission in TERI. Because these are not taught in NIT Jaipur & kurukshetra atleast.

Technical know-how is some what useful. - The course content is much better than the courses being run by IITs/ NITs on the similar topic. MTech REEM's present curriculum has helped me a lot in building my knowledge base about clean energy technologies. The internship part of this program has been the best time for me to interact with industry. Guest lectures from experts were also very useful in getting insights from the industry. Overall, the course has given me a lot of confidence in dealing with the renewable energy technologies on the field. Very much relevant. The course was good in giving us a starting point of any analysis and made me explore further deeper into specific topics. It holds great relevance but as its a relatively new course, so it will take its own time to evolve. In my current job, it is helping me a lot as I had taken Policy Studies as my elective and that is what am working on these days. None Some of the courses helped in relating things in the actual field and text book. It is helping in the sense that I am aware of basics of wind energy and thus made the foundation for further knowledge and growth of myself and industry. Very beneficial Its good but it needs to be restructure completely Very relevant but I think more case-studies should have been given during the 3 semesters of theory classes, including resource assessment which would have helped us strongly in future. It is quite relevant in terms of technical knowledge Very Relevant. Have learnt a lot of technical and managerial skills at M.tech. I still refer to my REEM curriculum presentations and books for my day to day activities. It was highly useful during my first job when I got an opportunity to design the HE and boiler/chimney for a manufacturing unit. Thereon it depends on how well verse and upto date one is as this sector is highly dynamic and policy driven with changes taking place very rapidly. I find it quite relevant but also laboratory work is to be included in a big way. the technical things which i learned during my course are very useful to start my project as i am working in the solar side. The course material and content is helping me quite good at the my job work. M Tech is relevant for the current job. It requires the understanding of technical as well as policy aspects of renewable energy technologies which M Tech has inculcated in me. All semesters were equally important and were helpful either in learning new things or revising already learnt topics of engineering. The curriculum and knowledge is very helpful and relevant in my present career. Domain specific knowledge which was part of the curriculum is highly beneficial, though some changes are required. The degree of co-relation between what I learnt and what I am doing as a job is very weak. Very much relevant Not applicable I find it very relevant as my current work involves working on rural energy. I feel that I have sufficient theoretical knowledge about the technology which I gained during the course, but I lack hands on experience. If during M Tech course some kind of practical sessions on Technologies could be added, it will be better. Energy auditing course in 2nd sem is very much useful for my current job. MTech REEM curriculum is fine but needs more practical approach. Especially need more emphasis on SPV (Bcoz more opportunities are in this area Unfortunately we had little exposure in this area). I feel in my case (a Consultancy), course is quite relevant. But, for core design engineering companies, i am not very confident. The knowledge and overview about the RE sector with a rigorous course in Energy Auditing were very helpful. The expert lectures during the course were very good and many times i meet the same experts during our programme conferences/trainings. This has helped me maintain

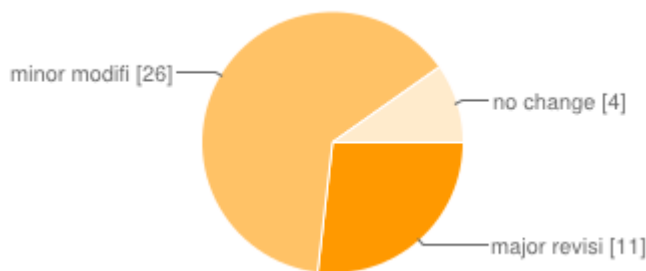
1.4.1.177

1.4.1.G.

better and life long contacts with the experts in the RE and EE industry in India. relevant to some extent but not actually. M. Tech Program is very much relevant for my current organisation. Since I am working in core renewable energy sector. But as per my industry experience course curriculum need to change to make it more industry relevant. Knowing little is more dangerous than knowing nothing. I think we may go for renewable energy Sector wise specialization in 2nd year.

The courses I had enrolled during M.Tech helped me in my career through out the past 3 years. In particular courses on Decentralised energy, Energy Policy and Project management are extremely relevant to my work. The curriculum has given a basic understanding of biomass energy and energy policy, some financial assessment which has helped me in my various projects.

How would you describe the changes that you wish to see in the present curriculum:



major revision	11	27%
minor modification	26	63%
no change	4	10%

Should more subjects related to management, economics, finance and policy aspects of energy sector be incorporated?

No. The curriculum has enough relevant subjects in these broad-areas and provide the minimum necessary tools that enable analysis in these aspects of renewable energy. Not necessarily. But the contents can be streamlined based on the faculty and student reviews (especially from the faculty) to make it more robust and relevant to the latest trends. Actually yes, the Renewable sector is fast changing, risky and a very dynamic sector. One has to have a good grasp of the policy and finance aspect of it whatever area of RE technology he/she is working with. I think the present curriculum is good enough, though few of these can be kept as elective for the interested students. No, the ones that are already there are fine. Since it is a Mtech program so people expect a lot from the students on the technical front in all sectors which they are not able to deliver properly as the knowledge is very poor and regarding solar projects the practical knowledge is zero. Full time faculty is very low and also core subjects like solar pv and wind have been majorly ignored. Yes, it can make the course more beneficial with regard to techno-managerial perspective. Yes. Practicals and rigorous Industry specific training along with the theory. Instead of Economics, Project financing/financing should be added. More sessions on economics is advised. NO Yes, as they are very important in a job in this sector. Also the inclusion os

1.4.1.G.

such subjects makes the M Tech program very versatile, which is one of its strong points. What ever they are at present are fine but the it will be very good if the faculty taking classes are continuous other than weekly basis. Mis Anureet Sahi & Dr Maithani covered good part of finance & policy, and it was great experience... but more is always good. 1-Economics 2-Finance Yes. Since the course broadly covers all the renewable energy technologies like solar wind biomass etc., there should be more emphasis on practical sessions/assignments related to economics, entrepreneurship and finance. No No. An effort can be made to teach the subject little more in depth with academic faculty. yes Absolutely. This was the something I missed the most. We were taught a lot about the latest technology research, but nothing about the basic unit economics of the projects. This is a skill that is required everywhere, be it a consultancy, government job or any other. Maybe No the balance is right in this particular area. Yes All above required subjects should come in broad manner in 2nd year with Case Studies Classes by expertise, relevant to Sector Wise Renewable Energy Industry. Case study will cover the real situation either in System- Plant Design, Resource Assessment, Manufacturing, Project Management, Supply chain Management, Finance-Hedging, International relevant Industry Economics. Case studies should be prepared by Relevant Industry Professionals and jointly assessed by Academic Professionals. Like If I am Interested to obtain my career in Solar Energy I should have access to subjects Economics, Management, Technology, Policy relevant to national or International level market of Solar PV & Solar Thermal Industry. Same should happen for Wind, Bio Energy, Energy Efficiency. Policy aspects of energy Yes, there should be more emphasis on financing of renewable energy projects rather than pure economics because while working in research or consultancy firms knowledge about how to assess technical and financial feasibility of projects becomes very important. Statistics is again an important subject so according to analysis required in renewable energy technologies, statistics subject should be modified. Yes, one course (not more) on RE financing. However, care should be taken that core technical courses such as Heat Transfer, Thermodynamics and RE Technologies 1 & 2 are not meddled with. After all, it is these core technical courses that differentiate us from an MBA or MSc Economics student. Yes, these subjects give an insight of the market progress along with the technological advances, which is an equally important aspect of the curriculum. Advancing with a guided faculty helps in focusing on the area of interest, and pursuing the same as a career option provides an edge to the course. Finance & Mgmt are needed everywhere, even in technical job... So more exposure to it will bring in more confidence in students Energy trading should be introduced as a subject Yes Economics & Finance Subjects related to economics should be incorporated more Instead of more subjects, more emphasis should be given on understanding through mini projects and real case studies. I think management related subjects needn't be added but finance related subject needs to be incorporated majorly as the understanding of technology as well as policy holds no significance without the knowledge of financial feasibility of a project. Yes. The existing subjects should be enough. However few subjects failed to connect many students. Strongly agree

If yes, which specific topics would you feel essential to be covered?

How to formulate policy and there should be coverage of tariff calculation and how to make DPR .

1.4.1.179

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RE Financing and RE specific Project management from industry experts Software classes should be incorporated fully, in place of classes like Project Management, Research Methodology and Technical Writing, which should be made block courses and should not extend more than a month. The curriculum needs to move away from being highly theoretical to being more and more practical. 1. Project unit economics - solar, wind, biogas, briquetting 2. Abstract technological applications - rural cold storage, lighting, running flour mills, running telecom towers, biofuel tractors etc. (Should be a project for students so that they think of real world challenges in an entrepreneurial fashion) 3. Technology mapping - Creating a framework for mapping technologies to geographies in India and internationally where they are more relevant technically and financially owing to local policy framework or state of industrial development. 4. Thermodynamics - This should be made more practical oriented, where students are asked to design and/or study boilers/HE for real clients 5. Practicals - All students should have a hands-on knowledge of setting/ designing a solar and biogas plant 6. Presentations - This should be made an integral part for students to improve their communication skills and shed the fear of public speaking. Students need to be able to express themselves and about their University with ease at public forums like conferences and other gatherings. 7. Inviting entrepreneurs - Loads of innovation happening in RE in India. We need to invite more entrepreneurs, have them connected with the students. Today's start-ups pay exceptionally well and also allow for a highly motivating work environment.

Technical-financial feasibility of RE projects to be dealt in detail, hands on training on important softwares like RETScreen, PVsyst, HOMER, wind and green building software should be discussed in 2nd semester in detail and conduct examination for the same. Green buildings is a very important subject I feel it should be taken into serious note that the faculty for the same to be arranged. For Management- tools and software Macro economics and corporate finance along with some know-how of sustainability to be incorporated as the course says Renewable energy engg. and management so management part needs a little attention as it gives students an opportunity to either be open to managerial or core technical field and at the same time inculcates Techno-Manual skill set. More about Renewable energy Technology and more detailed Study of Working projects installed . As of now a big divide is there between theory and practice in certain fields of study. 1. In depth knowledge about electricity regulatory aspects covering topics such as policy formation, tariff regulations, tariff determination, ARR analysis of discoms, power purchase agreements etc. 2. Hands on experience in designing PV/Solar water heating/CSP systems systems including detailed working experience about commonly used software in industry like PVsyst etc 3. Detailed financial modeling - All the topics need to be equally distributed amongst the course outline- Technology, policy, finance, economics, and ethics. Topics related to policy aspects of energy sector. Talking on rate of return, internal rate of return and all technical and economical jargons used in the field of energy Policies : Policies related to solar are well covered but policies for other sectors like wind, waste management, Biomass should be included. NA Basics of finance along with the understanding of finance in terms of power projects. Also, understanding of the power sector - both conventional and non-conventional is a must. Class on basics Economics in the 1st year and then energy economics in border senses at later stage. Following topics should be covered in greater detail: -Energy economics -Energy policy (not just existing policies, but what goes into formulating conducive policies) -Finance -Academic/Technical writing (should be given more importance; helps in writing better research papers and report-

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especially important for those who want to pursue research as a career option) I think there should be more course options on Biomass energy. One or two courses are not enough to cover the depth and vastness of the subject. There could be separate courses each dealing with biogas technologies and biomass gasification based technologies. More coverage should be given on the design aspects as well along with the broad overview of the technology. Introducing a PRO-E or AutoCAD session for design would be an add on. I think Energy Economics should be taught in 2nd sem (which was very free for us)... because it needs practice to play with numbers... and should be given its own space. Almost all topics are covered but sometimes they are not dealt in depth or to an extent which makes a student comfortable and confident enough. More exposure to practical worksheets. May be increase the credit or class hours for finance. Finance, Civil Engineering Basics, Project management. Financial Modelling. I feel finance and management part should be incorporated more into the current course. However more focus is required in the area of evaluating and finding techno-economic feasibility of any Renewable energy project. This is a must and should be included in Energy Economics. not subjects actually please provide few more hours for policy study so that we can learn more about specific state policies as i can see here policies are also playing a major role in RE sector. Working out economics for a live RE project (in the field for a pvt company) and including it in the curriculum for course evaluation. a detailed course on designing of policy, More robust course on project management and financing aspects of projects. Economics aspect of energy. Low cost clean energy techniques. Rural energy based subjects. Project financing, Performance analysis of power plants (Practical approach). Power financial management and financing of energy projects can also be covered in energy economics or project management.

Which aspects of the RE technologies should be given more emphasis and which should be given less emphasis?

First energy, then renewable energy. That approach must be stucked to. For any RE technology:-
 1. Detailed resource characterization and corresponding energy conversion potential must be deeply focused on. Elements of resource assessment and estimation is a must. 2. Elements of RE intermittency and energy storage must be given emphasis. A course on energy storage is a must. 3. Design and simulation softwares like TRNSYS, SAM, PVsyst must be taught with appropriate time given to them not just one-day sessions. More emphasis- 1.Solar rooftop 2.Wind Energy 3.Electric Vehicle Less emphasis- 1-Thermal power plant 2-Biomass. Technologies such as PV, more structured course for a semester would be more realistic rather than a block course. Same in the case of green buildings. Solar, on a whole is much hyped technology, because of obvious reasons-their utility and demand. Other areas, with maximum potency and equivalent competence, are biofuels, and wind, which according to my experience were less emphasised, for those with biotechnology background. More emphasis should be given to design of SPV and Solar Thermal plants Biofuels should be given less emphasis Applied Numerical methods might not be quite useful from a career view points. wind, solar, biomass, rural electrification. I feel all technologies should be dealt with in moderate detail, and can be taught in more depth if a student elects it as an elective subject in the third semester. Solar PV technologies were not taught very well in our batch. If the situation is similar then more emphasis should be laid on that. Also in biomass related

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technologies, an important aspect is the estimation of biomass resource, which was just touch upon and not dealt with seriousness. Basics of RE technologies can be briefed and later detailed electives should take care of emphasizing the subject. Individual student shall select their interests. Solar system designing should be introduced... Solar PV, Wind, green building and Biomass should be covered more rigorously. RE technologies have been although covered in detail but the designing of solar pv systems, wind resource assessment, different softwares used in organisations should be taught for a longer span of time and hands on training with examination on softwares to be conducted. Wind energy should be made credit course and dedicated faculty should be brought for it. Globally wind energy companies are doing just fine. power system engineering should be taken in more detail. more practical exposure to PV plants is required. You should incorporate subject like ground reality like how to install a solar pv, wind turbine, biomass in un-electrified village and also make some subject that teach us how to use software. It would be very helpful if best industrial practices of RE are studied and students be trained on the same. Application of concepts in industrial challenges can be made an important part with real-world examples. If we will offer Specialization in 2nd year program then definitely there is no need to create partiality with student's interest area. Student should have option to choose his specialized RE Sector. More detailed/core subject on Wind Energy. A full time teacher for solar PV and wind would help REEM a lot. M.Tech being a batch of technical studies, more emphasis should be given to technical aspects which should be aimed to address technical challenges of various RE Technologies. After first semester itself students should be given the choice for elective courses as it makes them enable to go for internship in related area after first year and make a hold on the subject in subsequent year as they would be exposed to market scenario briefly during internship which gives them a better placement opportunity at the completion and reduces burden on University. Solar and Wind. And others also should be given equal importance as masters is all about specialization so the students should have electives right in their second semester after the basic knowledge of some subjects in first semester. Like right now solar thermal has been taught very nicely but students have zero technical knowledge about solar PV. And most of the research is feasible on panels at institute and industry level. Wind should be given little more emphasis through regular course instead of electives. Emphasis should not be reduced from any other. Students should be given at least 2 semesters to follow their main interest rather than only in 3rd Semester, rather than focusing on all RE technologies together. For eg: Those who want to pursue Wind, should be given a chance to pursue that field, regardless of how many students are interested. Over the last 3 years I realised all RE technologies are equally important for the future and hold varying levels of relevance in accordance with scale and location. However, few that stand-out are solar, bioenergy and energy storage devices/technologies. All of the RE technologies should be given equal important. I think designing, and Labs need more attention. Technologies like geothermal, ocean etc shouldn't be given much time as they are not yet very commercialized and there are almost negligible job opportunities in the area. We can also be in touch with the RE firms to know better what they are looking/expecting from the course and if they could suggest some changes (specially in case of Wind, Solar and Bio-mass). Energy Economics, Technical writing, Field trips and proper follow-up for those field trips. More emphasis on low cost RE technologies. Solar, Micro-Grid, Biomass, Wind, Energy Efficiency related should be given more emphasis. For these we have practical exposure available in our country which will

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be helpful to the Students. The technologies which do not have scope of exposure in India should be left because they consume time and the students wouldn't have adequate exposure. Green buildings should be given more emphasis. Already the curriculum has emphasized more on solar compared to other RETs. so, for my opinion i don't think any further emphasis on RETs. Software tools regarding RE technologies should be given equal importance along with the regular studies. Importance to be given to Wind energy along with other technologies like solar and bio mass. Solar PV, Solar Thermal, Wind, Biomass and Small Hydro should be given more emphasis. Fuel cells and Hydrogen to be given more emphasis. Being an entrepreneur i need to know every aspect of RE, be it finance, technology or policy. So all the aspects should be given equal emphasis. There should be a set of specialized courses for each of the Solar, Wind and Biomass in third semester. Along with project management, there should be a course on entrepreneurship management as well. I also recommend a course on energy application in rural areas. There is an immense need for this kind of course in India. Solar PV, RE based heating & Cooling technologies. Practical exposure to Designing, feasibility, financial engineering of systems Professional solar system designing, & MATLAB & TRNSYS regular tutorials, not the crash course

Which parts of the programme did you find the most useful from the job perspective?

Finance & Core basic mechanical subjects Management and Solar thermal 1.Understanding of RE policy 2-Techno-economic analysis All. Especially Solar PV and Wind energy aspects. Basic knowledge about all technologies is helpful as most of the students are not able to make up their mind as to what technology they would like to pursue in their career. Technical writing/official communication is also very useful and should be focused more. 1. RERC was essential and can be useful for consultancy jobs 2. Project management is useful for people who want EPC jobs 3. Energy Economics for jobs in policy research and analysis. - Variety of inter-disciplinary subjects CDM project presentations, minor & Major presentations were very useful, as comments from Professors were informative. Energy Economics & Project Management were very useful. The basics of RE Technologies which the respective RE Industry demands are closely met. For me every part was useful as it helped me to identify the field in which i would like to work and helped me to see the future. RE Technologies 1 & 2 Policy, Energy Auditing, Heat and mass transfer Solar PV Heat and Mass Transfer Energy Auditor and Manager Power system engineering Course of green buildings was really helpful Until now, I have tried to apply everything I learnt from the program. The program is not just useful for my core job on energy auditing, but also help in of RE technologies and at times policy perspective projects that I have been involved with. Expert lectures and Industry insight. The elective subjects semester. All the subjects thought by Mr. RL Sawhney was really helpful. Mainly because of the time and depth in which it was covered in a semester. If all subjects were taken like that, with ample time and depth it will be a really good initiative. The summer internship and the major project. Policy studies, solar thermal classes and various workshops that we attended. Internship and guest lectures were the best. There should have been more site visits. Thermodynamics, energy management (Exceptionally useful, but would have loved them to be much more practical oriented, else it gets too overwhelming at times) Exposure to software like HOMER. Technology

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description of various renewable energy sources especially solar PV & Thermal and Project Management. Energy efficiency, thermodynamics, solar thermal technologies, policy studies, I wish there were more emphasis on energy economics, policies and technical writing though. Internship helped me a lot in having a prior understanding of the market and industry. Subjects also helped a lot in developing a comprehensive understanding of all technologies and policies. HMT, RERC and solar thermal part taught by Sawhney Sir The first semester is well designed. All the elective subjects are very useful, of course. For me, everything on solar thermal has been extremely useful. The courses on green buildings was really good but wish we had more contact hours. Field trips, basic engineering (1st semester), energy economics, management principles The major project, which has been a great learning experience, was the most useful, apart from the first semester curriculum. An industrial exposure alongwith course curriculum, is another better idea to provide a guided and focused direction for a successful career. Project Management, Energy economics, Technical aspects of SPV Solar PV and Thermal, Energy auditing

Which parts of the programme did you find the least useful from the job perspective?

All programmes were useful in their own right; but time allocation could benefit from some reworking. The effectiveness of specific courses can be gauged from the well documented student feedbacks already collected. Can't say. Knowledge and information gained during the course can help anytime in the life. EEIU, FMT, Project management I think the course is very well charted out, we just need to add more and not eliminate anything. In my opinion all the subjects have helped me to increase my knowledge. So I do not find any least useful programme. Applied Numerical Methods & Statistics Nothing. Everything is necessary from job prospective. - environmental impacts of energy use, numerical analysis, None Environmental implication of energy use fluids mechanics and turbomachinery advanced technologies for environmental protection and climate change Biofuels Applied Numerical Methods Energy Economics, Fluid Mechanics Applied numerical methods is not of use at all if only taught through theory. Its software should be taught instead of pure theory and manual solving of numerical. The course however is not very useful in the job I am currently undertaking. Job perspective, everything that consisted of Biomass related subjects were not effectively of use till date. All were good learning in themselves, except Applied Numerical Methods which was not application based and we could not relate that with current requirements. Renewable Energy Resource Renewable Energy Technologies Project Management Thesis Work I think the Research methodology subject should be an option and students who wish to take up careers in research should only attend. For others it is not that useful. Less confidence in handling simulation tools and design. Not applicable. Though theory classes are useful, I feel it would have been better had they been complemented with Practical case studies. At least one for each subject. It would have been hectic, so they can be considered in place of a minor, and marked accordingly. Different industries have different requirements. So, pinpointing some on the basis of one job would not be good. Wind energy technology as it was not taught well. Wind.... one of the most important subject... and no one gets even intern in the sector. It was disastrous. Numerical methods The subjects that were very much domain-specific and were compulsory. Instead of such a system, an optional subject of

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interest can be incorporated so that the student gets more insight of the subject of interest.
Geothermal, Economics.

If you were to restructure the programme, how would you do it (including re-allocation of credits among Lecture-Tutorials-Lab/Field visits

Field visits must be made compulsory every semester and even though Faculty is not able to accompany, students should plan each semester and should be made to submit a report after each visit. They should also be encouraged to go and ask questions and explore as much as possible.

I would probably set a few credits aside per semester for submission of research papers. It would motivate students to read more and get into an early habit of writing. It will also help students who do not want to pursue research as their writing skills will improve, Economics to be into 2 semesters. and bringing some more "Management" into REEM Field visits should be more. Field visits should also include workshops as well conferences (if possible) happening in and around Delhi. Workshops and conferences provide good exposure to students regarding current market trend and practices. Since I'm from Biotechnology background, I would like to put the compulsory electrical and mechanics subjects into optional, alongwith biofuels and other such options. This is because, those with interest in biofuels select the topic of their choice and start their professional practice at the research level. More field visits required! Laboratory and experimental projects are lacking, some long term planning may be considered, perhaps making use of Gwal Pahari campus (?) Field visits and tutorial should have more weightage

1) Compulsory field visits related to each technology 2) Hands on training on solar & biomass If possible other RE technologies also Club all the subjects taken by Mr. O.P Rao into maybe two courses rather than 4 as of now. In place of that include subjects where live projects are studied and software training is conducted. Please contact Mr. Anand Upadhaya from TERI, he was more than willing to take classes on Trnsys for students. More field visits, corporate exposure. I am very happy with the course structure. Just that more laboratories should be conducted. I would put electives in second semester and would rather let students choose in what field they want to go ahead. also there should be only 5 subjects or less in a semester and the project should start from third sem. i would focus equally on both lectures and field visits. Field visits with some actual readings to be taken on the technologies taught in class. Also practicals should be considered in lines with the demand in research and other organisations. In the first two semester theory and practical subjects both should be given equal weightage. Content wise, the program has everything it needs. However it would be great if the syllabus can be effectively, efficiently and entirely covered within the academic time frame. If few subjects/courses from sem 3 may be shifted to sem 2, it would give students in sem 3 more time to concentrate on their future placements and internships. Here would be my allocation: 1. Classroom lectures/ exams: 40% 2. Classroom participation: 10% 3. Field visits and practicals: 30% 4. Projects: 20% I would make the field visits compulsory for all the technologies we learn in the class room. Just needed classes to be conducted regularly The updated syllabus seems better. my suggestion is to bring energy economics in the second semester (so total 24 credits in 2nd semester) and in the third semester some field visit/mini-project/CDM project (like VVN sir gave for our batch) make that as a two credits subject (include presentation also). to get some ideas before going for major

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project. By making exam more stringent. More Fields visit. Tutorials, labs and field visits should be highly focused. Learning by doing should be the approach. More credits to labs/practical trainings/ on the job experience/field visits. I have seen the updated course structure, I don't feel any need for changes. More credits should be allocated to Lab. I believe lectures should be given 30% credit and should be the first step towards beginning of any new topic or subject knowledge. Then students should be asked to go through the subject in detail with optimum time allotted to them and hence 40% credit should be given to tutorials. And lab/field visits should be given 30% which will help students to link up/understand the knowledge they gained in lectures and tutorials. Tutorials, Field Visits and Seminars on specific topics should be given extra credits or by making it as minimum requirement for a semester evaluation. I would start specialization from the second sem itself. So that students can utilize the time in Jan after 2nd Sem by attending some workshops/tutorials more effectively.

1. Remove tutorials from the program and allot time for interactive discussions during classes.
2. Transfer those credits to lab-work in core RE technologies:- Solar PV, Solar Flat-plate and ET collectors, Biomass gasification. Tie-up with TERI to use their facilities.
3. More field-visits. I think number of courses can be reduced and many courses could be clubbed together. For e.g ENR 117 and 134 could be clubbed together to make a 4 credit course. Renewable energy conversion technologies – I and II can be clubbed together to make a 5 credit course. Similarly, ENR 132 and ENR 161 can be clubbed together to make a 4 credit course. The credits left could be utilized for compulsory field visits (Each student submitting a short report on the visit he liked most and the concerned technology). A 2 or 3 credit RE Technology design lab should be initiated where students themselves develop the running prototypes for solar PV and micro-wind systems for the Lab. More of field visits should be done. More piratical knowledge through market interaction.

Do you think that some of the electives could be changed in to compulsory courses or vice versa?

ANM course can be changed to elective. Environmental implication of energy use & Advance technologies for environmental protection and climate change mitigation both can be made electives. Yes, Wind Energy & Solar Energy Technology must be core subjects. Already suggested the same. I would like to make a suggestion to make the complete course, research oriented, rather than curriculum based. yes solar thermal and PV can be introduced in the first semester. I think we should be given electives in 2nd semester as well. Some courses from 3rd semester Waste Utilization, Green Building should have basic course in 2nd semester. Most of us think that we should be given electives in 2nd semester like in ESRM/CSP course.

1. Renewable energy policy and regulatory aspects should be made a compulsory course as this is a special feature of a renewable energy program.
2. Power systems should be made elective and integrated with grid integration of renewable sources as it is a burden in the 1st semester.

Yes some of the parts of the compulsory courses may be converted to electives. eg. RET course, students may not have to study all the technologies in that depth. In our case, Biomass/Biogas related topics which not many have taken it as an elective later, but did have to study as a compulsory topic in the RET course. No. Not necessarily. Should be changed in electives Environmental implication of energy use fluids mechanics and turbomachinery advanced technologies for environmental

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protection and climate change should be changed into credits Wind power generation solar pv generation Yes. Make Wind energy, PV, Solar thermal as the main courses. We are undergoing masters in technology and more depth and coverage is required in these fields. As of now our knowledge in PV is at par with any person who has attended any commercial block course for 10 days. 'Environmental implications of Energy Use' and 'Advanced Technologies for Environmental Protection' can be made Audit Courses Instead, 'Issues in Grid Integration' (with due care for non-electrical students) and 'Policy Aspects of RE Power Generation' should be made compulsory Solar and Wind energy reserves vital position in RE sources present on Earth. So, all studies related to these two RE technologies should be made compulsory. All is good on this front. i don't think so yes, Policy studies and RES could be made compulsory. Maybe energy economics can be made into an elective, so that students who are actually interested can take it up. please make sure that basic energies used in INDIA like wind, solar pv , biomass should not be scraped out. Solar PV and solar Thermal should be made mandatory. Policy planning could be made compulsory Building energy and green buildings (ENR 115), Policy and regulatory aspects of renewable power generation (ENR 132) should be compulsory subjects. Some electives have to be clubbed together with an another as they complement each other. The option of taking that complementary topic as an audit course would be advisable. Wind and Policy should be changed to compulsory. Subjects like Project Management, Research Methodology should be made block course and should not extend more than a month. They have to be compulsory since they are useful courses but they tend to get too lengthy if proceeded throughout the semester. Instead, software classes for various RE technologies should be made compulsory and every student has to submit at least one case studies on each subject, to make them more prepared for a career in RE. Green building should be compulsory

Your suggestions to make this programme more robust and employable.

More exposure to industry and labs. More hands-on labs and more visits to RE Power Plants will make the students more employable. More practical exposure. Motivation and guidance to students in choosing their focus as early as possible. Strict curriculum of labs/tutorials and field visits More interaction with industry including people from TERI. Part-time involvement in live TERI assignments Collaboration with an industry player in the solar PV/Thermal sector as with Suzlon in the wind sector. Industry lectures and experiences are highly valuable the above points. Just that more focus on practical aspects of technologies, hands on training and field visits should be increased. Financing and policy aspects along with understanding the regulations of renewable energy in India and abroad should be taught on priority basis. Increase industry interface and contacts. The programme is still not known to the industry. University needs to see it as its flagship programme (in terms of final placements offers, M.tech students have outperformed other departments) but efforts don't seem much. Until university doesn't take interest not much could be done. 1. Get the faculty for every RE technology being covered and ensure proper and timely lectures for proper grounding. 2. Do not focus only on classroom teaching. Leave some time for effective self-study and keep sections for interactive discussions during the classes. Do away with tutorials when they are not being held. 3. If faculty is not available pre-hand, then just drop the subject. In reference to the case of green buildings. 4. Include 'proper' software training and

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building of essential soft skill-sets which are required in the industry. 5. More relevant field-visits and inter-academia knowledge sharing and exchange programs. 6. Inclusion of hardware and live-working projects in the campus and allocation of research projects and research positions in the University. 1. Increase industry-academia interaction (starting with applied engineering would be nice) 2. Second semester could be more aggressive by delving into application of RE and the basics can be assigned for self study to certain extent. 3. Improve library collection for REEM 4. Online access to research papers would be a real force multiplier 5. More attention needs to be paid to solar PV, green building, wind and biomass especially for the sake of those who are keen to make career choices out of them. More regular faculties should be there to take up courses instead of guest faculty. The program as such is really great in design and content. Conducting regular seminars or technical symposiums shall spread the image of REEM. The TERI University official video hopefully at least now mentions the existence of M.Tech REEM course in the campus. Everytime a corporate or a potential employer looks into the video, they might fail to notice REEM. Make student well equipped with RE softwares. Other than that enrgy auditing course is very important one. SOLar PV & and thermal is good. But wind should be taught well as it is more promising technology for future. I am really proud to be a part of TERI University's REEM program but at the same time, I wish we had more opportunity to learn practically along with the theory classes. I had the wonderful opportunity to learn under the most esteemed faculties and for that I will forever be grateful. But the future generation has a lot of competition to face, with the RE field growing at a fast pace in India and hence, the courses has to be designed accordingly, keeping both options, for research and industry, open. Need more industrial visits and good internships More industry interaction and lab-work. More field visits to new as well as established companies will make our presence felt more. Guest Lectures that already happen is a very good step. More field trips, involvement of students in real time RE projects would enhance them to be closer to current reality. Proper counselling/review of students every semester would enable them to achieve clarity in their career path. Please invite more speakers from the management positions of the corporate companies. This will have double benefits in the form of both getting insights of industry and also employ-ability. More field visits, lab work and research work. Better spread of Classes in a week. More field visits and more Faculty with specialization and industry experience is required. more exposure to real projects. There should be weekly programme to counsel, motivate and advice students to opt for best RE field and type of job based on their interest. This will help make them expert in the field of their interest with close association of dedicated faculty of every RE technology. Students should be asked and encouraged more to read a lot and think in their subject of interest and should be nurtured to build up their imagination and thinking ability. Also, there should be classes on case-studies of present challenges and then discussions should be done in class which will make students to develop skills to analyse and answer real world problems. Practical Training/on the job experience with industry. Communication skills. To make people Stronger in Techno-commercial aspects, it will come if & only; Students will get specialization in their required RE Sector. University may try to get Various MoU's with Solar, Bio, Wind, Energy Efficiency companies to provide Case Studies based Classes in 2nd Year. Proper tutorials of AutoCAD, SAM, TRNSYS and i will suggest if possible districbute subjects equally among all 3 semesters, for us atleast, 3rd sem was too hectic and 2nd sem went all free. and as i already mebtioned, bring Energy trading as a subject Making it more practical

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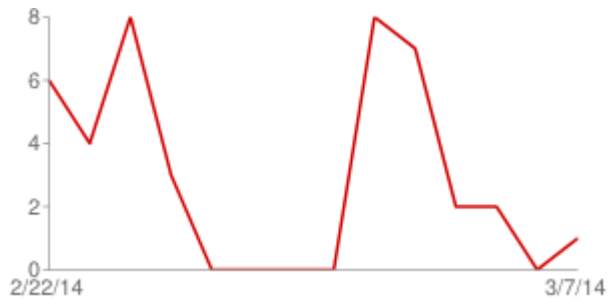
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and industry-oriented is the key. Kindly make the programme attractive for research oriented students, as TERI has a vast ground for exploration in the specific fields of research. I hope the placements at present is as effective as the other departments'. Special emphasis on Finance & Policy part. hands on experience during classes itself. If we focus it on practical knowledge and less on just the marks. I guess it will become a course more for the people who are genuinely keen on making a mark in this field. The eligibility criteria should be given a look. Economics & finance should be given more space in curriculum and again, softwares should be given more weightage

Any other comments

I strongly support these innovative and time needed courses which will create a pool of Eco-warriors to safeguard Mother Earth and Beautiful Nature from the Anthropogenic Hazards. The suggestions above are minor, but I believe can make a huge impact on the overall effectiveness of the course. Direct classroom interaction with current students would give valuable insights often missed through online feedbacks. NA Industry experts (like Dr Purohit) should be arranged for regular lectures Thank you for providing this opportunity. There is an urgent need to open an Entrepreneurship and Innovation Cell at the University Regular faculties would help in maintaining discipline. None I think this programme has the capability to become THE RENEWABLE ENERGY PROGRAMME in India, but what needs to be done is a balanced approach between theory and practical exposure. Good luck and best wishes, Sandeep Goel

TERI University is offering this unique program. Faculty which the TU offers has great exposure and knowledge. Only a little attention for students interaction with market can improve and help a lot. Many thanks for giving this opportunity. TERI has really been a good experience, but it can be more flexible with their M.Tech and make it their USP. While employability is a major criteria for re-vamping of curriculum, care should be taken that the technical rigor is not lost at the expense of management courses. For MoUs with Relevant Industry Professors may try to contact Alumnie. Theory based subjects like Conventional Energy Infrastructure, Advanced technologies for environmental protection and climate change mitigation etc are tested on the basis of one's ability to remember the material rather than understand it. Lectures are thus uninteresting and tests do not provoke any thinking out of the box. On the other hand, subjects (and professors) like Heat and Mass Transfer, Design for Sustainability, Smart Grid, Energy Economics etc. were very interesting and made us learn a lot more. Too much ambitious, too many classroom sessions but not adequate time being given to specialized subjects and identification of student-specializations. Collaboration or a kind of tie ups can be made with IIT, Delhi Energy studies. Interactions should be there between faculty as well as students. If possible students of TERI can go for workshops or conduct inter-university projects with IIT, Delhi. Guest lectures should be conducted more frequently so that other than theory, more of practical aspect should come into place for sector of renewable energy. Its been a wonderful experience at TERI. Thank you so much. Many students who join this program have some kind of industry experience. With this kind of curriculum one finds easy to start a business. Entrepreneurship should be promoted in a big way during this course.

1.4.1.G.**Number of daily responses**

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Teacher's Report

Email address	Name*	Designation*	Address*	Phone Number	Category of Institution*	At which level you would like to hire the Bioinformatics professional*	Which skill sets clearly defines the main requirement for your organization*	Which additional skill set do you expect from Bioinformatics professional for your organization*	What do you expect as a upcoming trend and required skill sets among profession*	Any other suggestions	Which will be the preferred location for opening the MTech program*
r/krman@teruniversity.ac.in	Ramakrishnan Stharaman	Associate Professor	10 Institutional Area, Vasant Kunj, New Delhi - 110016	011-71800222 ext 4856	Academia	Scientist, JRE/SRF	Bioinformatics and its applications	Programming languages	Data mining and cross-platform comparisons	N/A	Bengaluru
abhishekingh1@gmail.com	Abhishek Singh	Research Associate (Post-doc)	Bondgenotenlaan 13/403, Leuven, Belgium	32485885777	Academia	Analyst, Technician, JRE/SRF	Bioinformatics and its applications, Bioinformatics in IT enabled services	Excellent scripting skills in one or more languages, such as R, python, PERL, etc. This is in addition to sound knowledge of Unix environment.	Data analysis & visualisation linked to high-throughput data. This discourse requires range of set skills including but not limited to statistics, programming/scripting, data base management in context of biological question.	Make sure that the student is well aware of linux, bash scripting, R and python, along with basic statistics. The last semester project is crucial and students must be guided in selecting projects.	Dehi, Hyderabad, Guwahati, Lucknow
aprupa.bose0912@gmail.com	Apurupa Bose Mazumdar Ghosh	Ph.D thesis submitted	New Delhi	9650599340	Academia	Scientist, Technician, JRE/SRF	All	Applications for various downstream scientific inputs	Strong background of bioinformatics and able to apply machine learning and other techniques.		Dehi
mitarveer@iti.ac.in	Dr. M. Tarveer	Ramanujan Fellow (Faculty)	SIC Building, Mathematics Faculty Office - 02 Discipline of Mathematics Indian Institute of Technology Indore Khandwa Road, Simrol, Indore M.P., India 453552	9413259268	Academia	Scientist, JRE/SRF	All	Applications to medical image analysis and eeg signals			Dehi
Satyaj.Praakash@warwick.ac.uk	Satyaj Prakash	PHD student	School of life Science, Warwick university, Coventry , CV470AL United kingdom.	4.47438E+11	Academia	JRE/SRF	Other	To develop tool for for drug discovery and future medicine.	antimicrobial as a future medicine	Synthetic biology is the emerging field of biology.	Dehi
sumit.bag@nbi.res.in	Dr. Sumit Kumar Bag	Senior Scientist	CSIR-National Botanical Research Institute, Rana Pratap Marg, Lucknow-226001.	6222297914	Academia	JRE/SRF	Bioinformatics in IT enabled services, Bioinformatics: Algorithm development	Programming Knowledge to solve real life bioinformatics problem	quick fix the problem with coding	Long term project should be different aspect of bioinformatics	Dehi
abhay_sokunke@yahoo.com	Abhay B.Sokunke	Asst. Professor and Head Department	Shri Govindrao Mungthale Arts & Science College, Kurkha.	9403579999	Academia	Other	Bioinformatics and its applications				Hyderabad
a.kohl@im.org	Ajay Kohl	Senior Scientist	International Rice Research Institute	6325805600	NGO	Application scientist, Analyst	All	Basic degree in Biology, preferably MS Biology	Neural Networks, big data management	IT enabled, biology driven, computational knowledge	Dehi
singhivivekbhu@gmail.com	Dr. Vivek Singh	Scientist	Center for Ocular Regeneration, LV Prasad Eye Institute	9052204108	Academia, NGO, Other	Application scientist, Analyst, Scientist, JRE/SRF	Bioinformatics and its applications, Bioinformatics in IT enabled services, Bioinformatics: Algorithm development, All	Adequate basic knowledge of Cell biology/genomics/Protein science/Stem cell biology at Masters level	Cross interaction between bioinformatics and cell biologist		Hyderabad
imiyaz.hassan@gmail.com	Imtiyaz Hassan	Assistant Professor	Jamia Millia Islamia	9990323217	Academia	Scientist	Bioinformatics and its applications	Knowledge of Biochemistry and Cell biology	Having both in silico and experimental skill	NA	Dehi
dr.barh@gmail.com	Debmalya Barh	Scientist	IIOAB, NKB, WB	9449550032	Other	Analyst, Scientist	Bioinformatics and its applications, Bioinformatics: Algorithm development	Having knowledge of Omics	Strong computing, statistical/Big data analysis and biology	NO	
rohit_reigns11@gmail.com	rohit	Assistant Professor	a-305, ch-6, greater noida	9368457545	Academia	Application scientist, Scientist, JRE/SRF	All	proficiency in MATLAB and statistical tools	MATLAB, PERL, APPLICATION DESIGNING		Dehi
gaaurav.ari@gmail.com	Gaurav Agarwal	Visiting Research Scientist	2010 Emmett drive Apartment A5 Tifton 31794 Georgia	2298484858	Academia	Analyst, JRE/SRF	Bioinformatics and its applications	Comprehend and implement the outcomes of bioinformatics analyses. Ability to understand and perform basic wet lab experiments to validate the bioinformatic outcomes. Enthusiasm to learn and adapt to new emerging fields of biology like epigenetics and genome editing	Experience of working on Linux command line, shell scripting, coding in Python/Perl/R. Understanding and experience of dealing with high-throughput data generated from Next Generation Sequencing platforms. An ideal candidate should also be able to communicate the results understandable by non-bioinformaticians (core biologists). The findings of the research should be documented in a manner that can be accepted in journals of international repute.		Dehi, Hyderabad
gaaurav.ari@gmail.com	Gaurav Agarwal	Visiting Research Scientist	2010 Emmett Drive Apartment A5 Tifton 31794 Georgia (USA)	12298484858	Academia	Analyst, JRE/SRF	Bioinformatics and its applications	Comprehend and implement the outcomes of bioinformatics analyses. Ability to understand and perform basic wet lab experiments to validate the bioinformatic outcomes. Enthusiasm to learn and adapt to new emerging fields of biology like epigenetics.	Experience of working on Linux command line, shell scripting, coding in Python/Perl/R. Understanding and experience of dealing with high-throughput data generated from Next Generation Sequencing platforms. An ideal candidate should also be able to communicate the result understandable by non-bioinformaticians (core biologists). The findings of the research should be documented in a manner that can be accepted in journals of international repute.		Dehi, Hyderabad
vsodri@gmail.com	Dr. Vineeta Singh	asst prof	Department of Biotechnology, IET, Lucknow	9415338493	Academia	Application scientist	All	good knowledge of chemistry and biology	Bioinformatics in nanotechnology like study of interaction of nanoparticles with organic molecules or target	none	Dehi
mohangpk@gmail.com	Krishna Mohan	Assistant Professor	IIT-Roorkee	91-1332-284779	Academia	JRE/SRF	Bioinformatics and its applications, Bioinformatics: Algorithm development	Coding	Strong computational background with basic biology		Dehi
shprabinfo@gmail.com	Dr. Shilpa Gupta	Consultant	Excelita Knowledge Solutions (Gsk Informatics)	7276471189	Industry	Science Manager, Analyst	Bioinformatics and its applications, Bioinformatics in IT enabled services, Bioinformatics: Algorithm development, All	Strong Coding skills and understanding of Basic Biology	Python and R programming in addition to Bioinformatics background		Hyderabad, Pune, Bangalore
satendratke@gmail.com	Satendra Singh	Assistant Professor	8 B Adarsh Villa Gangotri Nagar Naini Allahabad	9565448367	Academia	Application scientist, Scientist, JRE/SRF, Other	Bioinformatics and its applications, Other	Research expertise	Computational Biologist		Dehi, Hyderabad, Guwahati, Allahabad
brathi@amity.edu	Bhawina Rathi	Assistant Prof	J3 Block Amity Institute of Biotechnology Amity University Noida Sector-125 U.P.	9953840456	Academia	Application scientist, Analyst	All	Should indulge in Database development and analysis of data arising from your wet lab experiments.	Should work in field of data analysis as well as software development		Dehi
gmisra@amity.edu	Dr. Gauri Misra	Assistant Professor	Amity University, Noida	9891203994	Academia	Scientist, Technician, JRE/SRF	All	Knowledge of biological fundamentals to apply in the development or execution of any bioinformatics programmes.	Basic knowledge of some scripting language, algorithm development	NA	Dehi
swamabioinfo@gmail.com	Dr. Swarna Kanchan	Assistant Professor	Presidency University, Rajpur, Rajnagar, Yelahanka, Bengaluru 560 064	7348804315	Academia	Analyst, JRE/SRF	All	Genome analysis by using machine learning and Knowledge about various databases	Next-generation sequencing (NGS) and programming skills		Hyderabad, Bengaluru
kambadar2015@gmail.com	Kambadar Muralidhar	Hon. Professor JC Bose National Fellow	#230 Akbar Bhawan South Asian University, Chanakyapuri New Delhi-110021	+91 9810927705	Academia	Scientist	Bioinformatics and its applications		one should write new and better algorithms		Hyderabad
Jay-Ram.Lamichhane@inra.fr	Jay Ram Lamichhane	Researcher	15 Avenue Honoré Serres, App. 15, 31000 Toulouse France		Academia	Scientist	Other	Exchange of knowledge and information with other disciplines to develop and put in place approaches and tools that can help address current challenges in agriculture	Any courses or research programs based on multidisciplinary approach to face current challenges in agriculture		Dehi
virdi_dusc@rediffmail.com	J.S.Virdi	Professor of Microbiology	Dept of Microbiology, University of Delhi South Campus, New Delhi 110021	1124110950	Academia	Application scientist, Analyst, Scientist, Technician, JRE/SRF	Bioinformatics and its applications, Bioinformatics: Algorithm development	Big Data Analytics related to genomics, Comparative genomics, Clinical and Diagnostic DNA Sequence informatics	NGS, Comparative microbial genomics, Systems biology of complex microbial systems such as microbiomes	Practical training of informatics tools as applied to the study of Microbial Genomics	Dehi, Lucknow
ysingh@igb.res.in	Yogendra Singh	Professor	Department of Zoology, University of delhi	9871095673	Academia	Analyst, JRE/SRF	Bioinformatics and its applications	Good knowledge of Biology and Bioinformatics	Biology + Bioinformatics + Statistics		Any place where it can be taught best

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indranil56@yahoo.co.in	Indranil Dasgupta	Professor	Dept. of Plant Molecular Biology, University of Delhi South Campus, New Delhi 110021	9910334110	Academia	JRE/SRF	Bioinformatics and its applications		RNA Seq data analysis and gene function assignment		Delhi
binuja.varma@tcs.com	Dr. Binuja Varma	Consultant-Scientist	Tata Consultancy Services	9910026522	Industry	Analyst, Scientist	All	Apart from Programming, network analysis, visualisation tools, data mining tools	Understanding text mining approaches, omics analysis, phenotype and image analysis, natural language processing.	A foundation of statistical analysis and basic biology is important.	Delhi

Questionnaire for need analysis of Masters Program on Climate Science and Policy

Name: Dr. K. Ramesh
Date: 18 May 2016
Organization: Wildlife Institute of India

Please add comments wherever you wish to.

1. Is your organization working on any areas of climate change? Yes/No. If yes, please specify
Yes
2. Does your institution/ organization need people who can identify and generate projects related to climate change?
Yes
3. Would you be inclined toward employing people who have a post graduate qualification in Climate science and policy?
Yes
4. What kind of skill sets would you look for when you employ a staff for working on areas related to Climate change and policy in your organization?
 - a. Basic skill sets (Mandatory)
Geography, RS & GIS, Climate Modeling
 - b. Additional skillsets (desirable)
Visualization Tools
5. What are the outputs/ deliverables you expect your employees working on climate change to deliver?
Spatial Database and Climate Modeling

1.4.1.H.

6. Do you think the existing MSc Climate Science and Policy Program at TERI University would be able to train workforce equipped with the skills required for working in an organization such as yours?

Yes

7. Are there any gaps in the existing MSc Climate Science and Policy Program at TERI University? Please specify.

Not really

8. Any other comments.

Not at the moment.

Kindly send this questionnaire back to us at the earliest possible

Questionnaire for need analysis of Masters Program on Climate Science and Policy

Name: Anshika Gupta
Date: 19/05/2016
Organization: Earthood Services Private Limited

Please add comments wherever you wish to.

1. Is your organization working on any areas of climate change? Yes/No. If yes, please specify

My organization is working in the field of climate change in the form of auditing of carbon trading programs like Clean Development Mechanism (CDM), Gold Standard (GS), Verified Carbon Standard (VCS) etc. we also deal in EHS audits, wind farm studies and other forms of certification.

2. Does your institution/ organization need people who can identify and generate projects related to climate change?

Yes we are in a need of workforce which can work in certifications.

3. Would you be inclined toward employing people who have a post graduate qualification in Climate science and policy?

Yes

4. What kind of skill sets would you look for when you employ a staff for working on areas related to Climate change and policy in your organization?

- a. Basic skill sets (Mandatory)

Knowledge of basic science of climate change & sustainability, good communication skills, reasonable confidence level, good writing/reporting skills (in English)

- b. Additional skillsets (desirable)

Basics of energy, power & electricity, knowledge of basic finance like debt, equity, income tax, corporate tax, MAT, depreciation, decent analytical skills,

5. What are the outputs/ deliverables you expect your employees working on climate change to deliver?

Properly written certification report and efficiently audited project is what we expect. Additionally, we expect them to make the deliverables as a fact finding exercise rather than a fault finding one. Primarily we expect, efficiency, integrity and meeting the expectation of the organization and clients consistently.

6. Do you think the existing MSc Climate Science and Policy Program at TERI University would be able to train workforce equipped with the skills required for working in an organization such as yours?

They can, but partly. We need to spend time to train CSP students in various way before putting them onto actual work i.e. auditing a GHG project. I being an alumina of CSP had to learn a lot of stuff while in my job which slowed the pace of my work. It may be prudent to note that any professional course (like MSc CSP) requires a lot of real time effort which is required for successful completion of a project. Hence a sustained effort in terms of finding new concepts/ideas

7. Are there any gaps in the existing MSc Climate Science and Policy Program at TERI University? Please specify.

The current curriculum of CSP is quiet elaborate and covers a wide range of topic really nicely. However, if we add following points to the new curriculum it would be helpful:

- Basics of finance (like taxation, corporate tax, MAT, debt, depreciation, equity, loan, income tax) [please try and make it a credit course not an audit one].
Calculation of various financial indicators like IRR, NPV, Levelised Cost

1.4.1.H.

- Introduction of new forms of carbon market as well. We in 2013-2015 batch were introduced to CDM and JI which is quite outdated now. We can introduce some introduction chapters on Gold standard¹, Verified Carbon standard², Pilot Auction Facility³, Social Carbon⁴ etc., which are new and latest. Include a small section on Climate Change Adaptation and Mitigation concepts, INDC's of Non-Annex 1 countries⁵ (INDC's may be taken as a case study), An overview on Green Bonds⁶ as a financial instrument dedicated to climate-mitigation, adaptation, and other environment-friendly projects, Various Carbon Trading platforms
- We can introduce small chapters on other latest environmental services in the market. Various management certification programs like ISO 14001, OHSAS 18001, ISO 50001 (Energy Management System), SA 8000 (Social Accountability), ISO 26001 (Social Responsibility)
- Include a small section on International Reporting Schemes/Voluntary Disclosures (like GRI/G4, Carbon Disclosure Project, Cement Sustainability Initiative, Water Footprint Network, Alliance for Water Stewardship).
- General overview of sources of energy with focus on physical concepts like work, energy, electricity, thermodynamics, energy balance etc.
- We can have a course like economics of energy where we include topics like energy market, energy supply, tariff regulation, public policies related to electricity. We may include aspects of natural gas, oil, nuclear power in terms of taxes, price regulations and deregulations, energy efficiency and policies for controlling emissions. Brief on NAPCC and NMEEE (National Mission on Enhanced Energy Efficiency) and as a launching platform. Include a section on newer concepts like Renewable Purchase obligations (RPO), Perform Achieve and Trade (PAT Cycle 1 and 2), Indian REC and IREC (International Renewable Energy Certificates)⁷, Various initiatives of BEE as a part of Energy Efficiency Improvement Program.
- A small section on Resource Conservation Techniques in terms of Water and Energy (may be optional though)
- CSR Framework in India, Guidelines, Section 135 of Company's Act. Indian Scenario.

¹ Details may be found on <http://www.goldstandard.org/>

² Details may be found on <http://www.v-c-s.org/>

³ Details may be found on <http://www.pilotauctionfacility.org/>

⁴ Details may be found on <http://www.socialcarbon.org/>

⁵ Already submitted INDCs may be found on <http://www4.unfccc.int/submissions/indc/Submission%20Pages/submissions.aspx>

⁶ <https://www.climatebonds.net/market/explaining-green-bonds>

⁷ More details can be found on <http://www.irecstandard.org/>

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- Leadership skills [we can have a 2-3 days block course on this]
- Communication skills

8. Any other comments.

The comments given above cannot be confined to only M.Sc CSP but to ESRM as well. After taking interviews of candidates for minor project and final placement in my company, I have realized that the above mentioned things are lacking in both the programs.

Kindly send this questionnaire back to us at the earliest possible

Questionnaire for need analysis of Masters Program on Climate Science and Policy

Name: Rajat Batra
Date: 27-May-2016
Organization: STENUM Asia Sustainable Development Society

Please add comments wherever you wish to.

1. Is your organization working on any areas of climate change? Yes/~~No~~. If yes, please specify

STENUM Asia helps enterprises reduce energy consumption through training, on-site consulting, audits and implementation support.

2. Does your institution/ organization need people who can identify and generate projects related to climate change?

Yes, we need persons with a good understanding of climate change issues, and can identify thematic focus areas where funding is available and to generate project proposals around such themes.

3. Would you be inclined toward employing people who have a post graduate qualification in Climate science and policy?

STENUM Asia's major focus is in the implementation of climate change mitigation measures in enterprises across the Asia region. So for us people with a post graduate qualification in the practical aspects of climate change science would be more relevant than those with a strong focus on policy.

4. What kind of skill sets would you look for when you employ a staff for working on areas related to Climate change and policy in your organization?

- a. Basic skill sets (Mandatory)

Climate change mitigation strategies, understanding of climate change science, energy efficiency strategies, good understanding of the business case for climate change mitigation

- b. Additional skillsets (desirable)

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Financial and other instruments available to promote climate change mitigation measures, proposal writing

5. What are the outputs/ deliverables you expect your employees working on climate change to deliver?

To independently contribute to development of services being offered to enterprises in field of efficiency and climate change mitigation

6. Do you think the existing MSc Climate Science and Policy Program at TERI University would be able to train workforce equipped with the skills required for working in an organization such as yours?

Yes

7. Are there any gaps in the existing MSc Climate Science and Policy Program at TERI University? Please specify.

A greater emphasis on energy efficiency would be appreciated and more practical orientation of the strategies with clear understanding of low cost, medium cost and high cost strategies in the Energy courses. Also the course on Environmental Economics should be a core course as this topic is crucial to understand (and thereby explain to) private sector enterprises.

8. Any other comments.

[Type an answer here]

Kindly send this questionnaire back to us at the earliest possible

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Students Feedback

COURSE_ID	COURSE	Faculty Name	Total no. of students	Participated	WTG
709	Molecular plant physiology and metabolism(BBP 156)	xxxxxxx	14	14	1.86
482	Principles of geoinformatics(NRE 172)	xxxxxxx	60	56	2.68
651	Energy efficient buildings(MEU 112)	xxxxxxx	9	7	3.02
481	Basic course in environmental and resource economics(NRE 141)	xxxxxxx	35	35	3.06
291	Fluid mechanics and turbomachinery(ENR 139)	xxxxxxx	34	34	3.12
279	Applied numerical methods (thru MATLAB)(ENR 172)	xxxxxxx	34	34	3.19
485	Biodiversity assessment and conservation(NRE 123)	xxxxxxx	18	17	3.4
295	Game theory(MPE 147)	xxxxxxx	29	28	3.42
467	Management of development organizations(MPD 153)	xxxxxxx	24	21	3.44
277	Renewable energy conversion technologies - I(ENR 124)	xxxxxxx	38	35	3.46
488	Solid and hazardous waste management(NRE 189)	xxxxxxx	36	32	3.5
51	Digital image processing and information extraction(NRG 172)	xxxxxxx	6	6	3.54
278	Renewable energy conversion technologies - II(ENR 126)	xxxxxxx	34	34	3.58
640	Wetland conservation and management(WSW 168)	xxxxxxx	7	6	3.62
542	Climate change: Vulnerability, Impacts Adaptation & Resilience(NRC 182)	xxxxxxx	25	21	3.64
554	City and Regional Planning and Management(MEU 152)	xxxxxxx	9	8	3.78
275	Energy auditing, energy efficiency and energy conservation(ENR 114)	xxxxxxx	34	34	3.82
615	Organisational behaviour(PPS 108)	xxxxxxx	16	14	3.84
259	Mitigation of climate change(NRC 132)	xxxxxxx	16	16	3.86
715	Bioinformatics and computational biology - Part I(BBP 174)	xxxxxxx	14	14	3.88
262	Theory of environmental policy(MPE 144)	xxxxxxx	29	28	3.88
380	Integrated impact assessment(MPD 145)	xxxxxxx	24	21	3.89
589	Fundamental paradigms of economics and the concepts and practice of economic reg	xxxxxxx	16	14	3.89
258	Air pollution and climate change(NRC 134)	xxxxxxx	7	7	3.9
486	Environmental pollution and control(NRE 132)	xxxxxxx	6	6	3.9
52	Spatial data modelling and GIS applications(NRG 174)	xxxxxxx	6	6	3.9
487	Hydrology(NRE 162)	xxxxxxx	17	17	3.93
350	Group practicum 2(MPD 102)	xxxxxxx	24	21	3.94
588	Normative ethics(PPS 105)	xxxxxxx	16	14	3.94
265	Econometrics(MPE 172)	xxxxxxx	29	28	3.97
555	Geoinformatics for Urban Development(MEU 172)	xxxxxxx	10	9	3.99
590	Methodologies: statistical analysis and decision making tools(PPS 171)	xxxxxxx	16	14	3.99
439	Corporate finance(PPM 122)	xxxxxxx	23	18	4
49	Photogrammetry(NRG 170)	xxxxxxx	6	6	4
558	Regeneration and City Competitiveness(MEU 154)	xxxxxxx	9	8	4
562	Urban Disaster Management and Climate Resilient Cities(MEU 162)	xxxxxxx	8	7	4.04
547	Urban Ecology and Environment(MEU 121)	xxxxxxx	9	8	4.04
490	Water quality management(NRE 142)	xxxxxxx	20	17	4.06
263	Economics of natural resources(MPE 146)	xxxxxxx	29	28	4.07
713	Introduction to management techniques - I(ENR 185)	xxxxxxx	35	34	4.07
342	Community relationship(PPM 182)	xxxxxxx	13	4	4.15
631	Geoinformatics for water resources(WSW 172)	xxxxxxx	9	7	4.16
50	Law and policy for maps and remote sensing(NRG 160)	xxxxxxx	6	6	4.17
390	Indian economics and development(MPE 141)	xxxxxxx	29	28	4.18
429	Development economics(MPD 147)	xxxxxxx	25	23	4.19
474	Environmental health and risk assessment(NRE 144)	xxxxxxx	32	31	4.19
76	Management information system(PPM 171)	xxxxxxx	8	7	4.2
300	Collective action and environmental management(MPE 135)	xxxxxxx	10	7	4.25
340	Contemporary issues in change management(PPM 186)	xxxxxxx	14	5	4.25
430	Population and health: Techniques of analysis policy perspectives(MPD 124)	xxxxxxx	24	21	4.26
484	Air quality management(NRE 134)	xxxxxxx	19	17	4.27
627	Water economics and financial management(WSW 122)	xxxxxxx	8	6	4.27
633	Water supply and sanitation(WSW 184)	xxxxxxx	8	6	4.28
472	Environmental statistics(NRE 111)	xxxxxxx	73	62	4.29
669	Law and economics(MPE 151)	xxxxxxx	9	8	4.32
373	Brand management(PPM 195)	xxxxxxx	10	4	4.38
630	Applied hydrology(WSW 162)	xxxxxxx	5	4	4.39
82	Public policy processes and institutions(PPS 161)	xxxxxxx	16	14	4.45
604	Business ethics(PPM 157)	xxxxxxx	15	6	4.47
634	Water quality modelling and application(WSW 176)	xxxxxxx	5	4	4.49
639	Water audit and demand management(WSW 124)	xxxxxxx	8	6	4.5
628	Water related disasters: management and planning(WSW 152)	xxxxxxx	8	6	4.5
231	Thermodynamics(ENR 131)	xxxxxxx	34	34	4.51
348	Key concepts of cultural and political ecology(MPD 126)	xxxxxxx	26	22	4.52
609	Supply chain management(PPM 138)	xxxxxxx	10	4	4.53
626	Traditional knowledge and water management(WSW 142)	xxxxxxx	8	6	4.55
183	Plant biotechnology laboratory - Part 2(BBP 102)	xxxxxxx	14	14	4.56
559	Research Methodology(MEU 176)	xxxxxxx	19	17	4.57
649	Entrepreneurship Development and Management(PPM 199)	xxxxxxx	10	4	4.62
557	Real Estate Development(MEU 184)	xxxxxxx	10	9	4.63
440	Customer relationship management(PPM 154)	xxxxxxx	13	5	4.65

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337	Operation and management of power systems(PPM 166)	xxxxxxx	8	3	4.67
63	Infrastructure policies reforms and law(PPM 151)	xxxxxxx	16	13	4.69
714	Molecular cell biology - from genes to communities(BBP 114)	xxxxxxx	14	14	4.7
247	Environmental economics(MPP 147)	xxxxxxx	8	7	4.71
347	Law, society and sustainable development(MPD 152)	xxxxxxx	25	21	4.76
629	Water security and conflict management(WSW 182)	xxxxxxx	11	9	4.76
564	Sustainable Urban Transport(MEU 144)	xxxxxxx	9	8	4.77
611	Legal aspect of business(PPM 158)	xxxxxxx	8	7	4.79
272	Qualitative research methods in management(MPP 173)	xxxxxxx	8	7	4.82
180	Immunochemistry(BBP 130)	xxxxxxx	14	14	4.83
271	Production and operations management(PPM 187)	xxxxxxx	8	7	4.86
489	Water conservation(NRE 185)	xxxxxxx	20	19	4.86
182	Molecular markers and breeding(BBP 150)	xxxxxxx	14	14	4.9
307	Sustainable business strategy(PPM 107)	xxxxxxx	10	7	4.94
712	Statistics for the life sciences(BBP 112)	xxxxxxx	17	14	4.97
608	Managerial economics - 2(PPM 142)	xxxxxxx	9	7	4.99
637	Integrated watershed and river basin management(WSW 164)	xxxxxxx	3	2	5
660	Irrigation water management(WSW 166)	xxxxxxx	3	2	5
607	Quantative methods in management - 2(PPM 174)	xxxxxxx	8	7	5
			1542	1356	

Final Feedback

88%

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Alumni feedback report

Name	Designation	Address	Email id	Phone Number	Please identify category of your institution	1. At which you level you would like to hire	2. Which skill set clearly defines the requirement for your organization/Institute?	3. What additional skill sets you may expect from Geoinformatics professional for your	4. What do you foresee as the upcoming trend and required skill set among professionals?	5. What kind of skill sets would you expect from MSc Geoinformatics?	6. What kind of skill sets would you expect from MTech Geoinformatics?	7. Any other suggestions:
Balaji Narasimhan	Associate Professor	IT Madras	nbalaji@itim.ac.in	4422574293	Academia	GIS/Remote Sensing Analyst, Scientist, JRF/SRF	Skill set 1: Geoinformatics and its applications. Skill set 3: Geoinformatics: Algorithm development & other R&D	Ability to do programming and develop tools	Familiarity and knowledge to work with open source tools	Ability to develop code and develop tools	Ability to apply a set of tools for solving a problem	
Kasturi Deb	GIS Executive	1916/10	Kasturideb23@gmail.com	9999369829	Private Industry	GIS Engineer, GIS/Remote Sensing Analyst	Skill set 2: Geoinformatics and IT enabled Services	Application development, knowledge in Python, Java	Strong IT skills	Good domain knowledge in remote sensing and GIS, data management, application development	Same as above	No
R PRERNA	PROJECT SCIENTIST B	NATIONAL CENTRE FOR ANTARCTIC AND OCEAN RESEARCH, GOA	prema.geoinfo@gmail.com	9999821136	Government institutes/organization other than academia	Technician/Assistant, Scientist, JRF/SRF	Skill set 1: Geoinformatics and its applications. Skill set 3: Geoinformatics: Algorithm development & other R&D	additional background information on marine and cryospheric GIS applications	greater role of GIS servers and applications	basic processing of remotely sensed data and understanding of GIS tools (software specific i.e working knowledge)	greater knowledge in coding and algorithm development	far greater exposure of students in practical is required as opposed to theoretical classes. students must receive classes for all subjects stated in the syllabus and not just a few lectures from visiting faculty as was the case during my batch (2010-2012)
Saaha	Research Scientist	N 34, Top Floor, Srinivas Park, New Delhi-110065	shirishy.saaha@gmail.com	8058460878	Government institutes/organization other than academia	Scientist	Skill set 3: Geoinformatics: Algorithm development & other R&D	Numerical Modeling and Software Development with applied statistics	Research orientation in specialized domains with expertise in Open and proprietary software for statistics and modeling	Good Research Writing and overall idea of implementation and usage of the subject in the their interest domain	Engineering Remote Sensing & Geospatial Technology, Updated with the usage of current equipment and gadgets with the effective implementation over some application based project.	It would be great if the students get exposure of more industries in the field with some exposure of abroad universities internships too.
D Nagesh Kumar	Professor	Dept of Civil Engg., IISc, Bangalore-12	nagesh@civil.iisc.ernet.in	080 2293 2666	Academia	JRF/SRF	Skill set 3: Geoinformatics: Algorithm development & other R&D	Engineering background	Data mining and Data Compression techniques	Integration and analysis of multiple map sources in GIS	Good understand of algorithms to handle large datasets	Best wishes
Senjuti sen	Project coordinator	B404 green home society, marol pipeline, andheri east,mumbai	Senjutisen.kul@gmail.com	9004181076	Private Industry	GIS Manager	Skill set 2: Geoinformatics and IT enabled Services. Skill set 3: Geoinformatics: Algorithm development & other R&D	Project management, v well versed with languages like python, java, big data, gis tool development.well versed with excel	Developers are more in demand than gis analyst	One should be very well versed with upcoming technologies in the field. HADOOP can be an added advantage. Project management skills are must in a corporate world.	Hyperspectral remote sensing, algorithm developments, image processing.	For optional paper computer languages should be kept like courses for python , Linux, java, .net, apart from the introductory course in first semester. Placement cell should place students as per their choice as analyst or developers.
Anshuman Bhardwaj	Scientist	LTU, Sweden	anshuman.ter@gmail.com	98067529	Academia	GIS/Remote Sensing Analyst, Scientist, JRF/SRF	Skill set 1: Geoinformatics and its applications. Skill set 3: Geoinformatics: Algorithm development & other R&D	Research aptitude	To be very frank, it is high time now and the academic sector in India offering courses in geoinformatics has to realise that private sector within India has very little to offer to the prospective professionals in terms of both, career growth and monetary benefits. Geoinformatics is basically an application based field and most suited for research and development within academic and scientific sectors. Students who invest a lot of money and time in doing MSc in this field should be mentally prepared for research as this is the only sector that after a little patience and hard work can make them great professionals in their respective fields of specialisation after MSc. I am probably the only one from all the MSc geoinformatics batches which passed out from TERI who has completed his PhD and is now working in world's renowned research group in Sweden. I always knew that temporary earning in private sector was never going to be career defining for me and it would have never given me the job satisfaction that I expected while completing a "hard-earned" MSc from TERI. Today I am earning at least 4 times more than the highest paid geoinformatics pass-outs in the private sectors; apart from enjoying my work profile and status. So in short, teachers teaching the courses in geoinformatics have to be very frank with the students about their career prospects instead of keeping it gloomy. They have to motivate them towards research. My strong recommendation (and is based on my personal opinion) is that one should pursue PhD right after completing MSc. Mtech course is simply a waste of time and energy as again, one has to do PhD to seek a growth in this field. I do not understand a need for MTech course. TU should first make some major overhauls in the MSc course to make it more robust instead of introducing another Mtech course on an already weaker foundation.	Research Aptitude, a sound basic knowledge of remote sensing, photogrammetry, and digital image interpretation concepts, Good GIS familiarity	I do not recommend this course	
Rumia Basu	Researcher	Trivenipuram Ganga 1 Flat no 404 booty ranchi	rumia.basu@gmail.com	7894454336	Government institutes/organization other than academia	GIS/Remote Sensing Analyst	Skill set 1: Geoinformatics and its applications	To be able to be able to develop one's own ideas in this sector and carry out innovative research	Programming	Complete knowledge about the theory and practical aspects of Remote sensing and GIS together with programming skills in any one language such as python,R etc.	More technical aspects like programming	
Swati Rawat	Research Associate	C/PT, 910-911, Pragati tower, Rajendra Place, Delhi-110008	swatirawat149@gmail.com	9990885104	NGO	GIS Engineer, GIS/Remote Sensing Analyst, Scientist	Skill set 1: Geoinformatics and its applications	Experience in Statistical analysis and policy advocacy, and surveys	good knowledge on latest remote sensing technologies such as Hyperspectral and SAR, programming skills	specific application based analysis like in hydrology, geology, agriculture, climate change, atmospheric science etc	algorithm development for different geospatial datasets, development of tools for processing images using R or Python, etc	
Bakul Budhiraja	Ph.D. Civil Engineering (Geoinformatics)	Shiv Nadar University, NTP1, Tehsil Dadri, Uttar Pradesh 201314	bakul.budhiraja@snu.edu.in	095827 57529	Academia	Research Scholar	Skill set 1: Geoinformatics and its applications	Focus more on R,python,matlab and more intensive mathematics courses - complex theory	For research - environmental modelling and architecture - integration of various fields	Coding,Sound understanding of mathematics, Spatial statistics,open to other fields as in projects are in collaboration	Same as above	Increase no of credits, along with statistics, maths courses must be floated, compulsory courses on R,matlab and python. Make them more literature intensive.
Swati	Project Engineer	Delhi	swatigis23@gmail.com	9811516392	Government institutes/organization other than academia	Scientist	Skill set 1: Geoinformatics and its applications. Skill set 3: Geoinformatics: Algorithm development & other R&D	should have innovative approach and solutions for resolving the challenges	Web based services, Mobile based app, IOT development, all aspects associated with the public welfare and social development	Innovative approach , research interest,	should be technical enough to provide more innovative solutions to the problems	exposure to organizations, industries should be given so as to know them the practical and real world challenges
Bijan Deb Nath	PhD Research Scholar	C-44 Baramunda H.B.C., Bhubaneswar, India	bjan.debnath@outlook.com	9424410558	Academia	GIS Manager, GIS/Remote Sensing Analyst, Scientist	Skill set 1: Geoinformatics and its applications. Skill set 3: Geoinformatics: Algorithm development & other R&D	Management of man power for better project results.	Ability to deal with people, by understanding their requirements; designing applications and making the usage easy to achieve the end results.	Dynamic Knowledge of understanding and interpreting different theme maps	Knowledge of GIS models along with programming and also to develop if require for various GIS based applications	Geoinformatics Exports should also have interdisciplinary skill to understand the requirements of clients from various fields/subjects (e.g. socio-economic, climate change, forestry application, disaster mitigation and agriculture).
P K Joshi	Professor	Jawaharlal Nehru University, New Delhi	pkjoshi@mail.jnu.ac.in	011-27704323	Academia	Scientist, JRF/SRF	Skill set 1: Geoinformatics and its applications. Skill set 3: Geoinformatics: Algorithm development & other R&D	Having good knowledge of statistics and programming with thematic discipline.	Data Analytics and Data Mining (including statistical and econometric analysis)	Correct and good knowledge of RS,GIS,GPS and Geography. Strengths in thematic discipline. Interest in programming and statistics.	Details in programming and statistics. Strong background OGC.	Strong hands-on in academic and operations projects. Interests and exposure to OGC.

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Shanthala Devi B S	E A Director	CWC, Bhubaneswar	shanthaladevi100@gmail.com	809387142	Government institutes/organization other than academia	GIS Engineer, GIS Manager, GIS/Remote Sensing Analyst, Technician/Assistant, Scientist, JRF/SRF	Skill set 1: Geoinformatics and its applications, Skill set 2: Geoinformatics and IT enabled Services, Skill set 3: Geoinformatics: Algorithm development & other R&D	Geoinformatics and Ecological Modelling	Geoinformatics in Hydrodynamics	Geoinformatics in Basic Science Application	Geoinformatics and Software Development	Geoinformatics subject should be made popular and percentage of job opportunities to be increased.
C S Murthy	Head, Crop Monitoring & Assessment Division	NRSC Balanagar Hyderabad	murthy_cs@nrsdc.gov.in, cmurthy09@gmail.com	989009910	Government institutes/organization other than academia	GIS/Remote Sensing Analyst, Scientist, JRF/SRF	Skill set 1: Geoinformatics and its applications, Skill set 2: Geoinformatics and IT enabled Services	Analytics, spatial modeling	Multi-parameter data analysis, parametric and non-parametric approaches	Spatial data analysis, basic statistical techniques	Spatial data analysis, statistical techniques	
Jeganathan	Professor	Department of Remote Sensing, BIT, Mesra	jeganathanc@bitmesra.ac.in	0651-275444	Academia	JRF/SRF, Assistant Professor	Skill set 1: Geoinformatics and its applications, Skill set 2: Geoinformatics and IT enabled Services, Skill set 3: Geoinformatics: Algorithm development & other R&D	Good communication skills and knowledge about latest global developments	Whole globe is moving from experiment to explanation. Natural resources management, Climate Change adaptation, Decision making and Disaster Prevention will be the key fields.	Able to understand the basic and advanced concepts of using RS/GIS tools AND Implementation methods.	We expect M.Tech. students to have an independent research execution capabilities and sound analytical and logical skills.	Most importantly students should be bold enough to carry out new and advanced researches in the field of geoinformatics.
KRISHNA MOHAN BUDDHIRAJU	PROFESSOR AND HEAD	CSRE, IIT BOMBAY, POWAI, MUMBAI - 400076	kmohan@csre.iitb.ac.in	91-22-2576-7684	Academia	JRF/SRF	Skill set 3: Geoinformatics: Algorithm development & other R&D	Knowledge of mathematics, programming, modeling	Data analysis skills, ability to program/implement any model by oneself, ability to handle relevant mathematics, statistics, hypothesis testing, etc.	Knowledge of GIS, remote sensing, GPS, basic surveying, field data collection skills etc.	Types of remote sensing, image processing, raster and vector GIS algorithms, GPS based position estimation and navigation, applications to forestry/agriculture/urban/rural problems, field data collection and accuracy estimation, independent project handling	Should not be tied to a software package but core principles should be covered properly, after which experience with any good software may be okay.
Dr. Sanjay Shitole	Associate Prof in Information Technology	UMIT, SNDT Women's University, Mumbai	sanjay.shitole@unitiitb.ac.in	9892301603	Academia	GIS/Remote Sensing Analyst	Skill set 1: Geoinformatics and its applications, Skill set 2: Geoinformatics and IT enabled Services, Skill set 3: Geoinformatics: Algorithm development & other R&D	Good programming skill	Machine learning, Internet of things	Should understand mathematical modelling	Analytical skill	Learner should be trained to acquire multidisciplinary skill set
Umamaheshwaran Rajasekar	Director, TARU Leading Edge	M6, Aurobindo Marg, Hauz Khas, New Delhi	Mrajasekar@taru.org	9724871091	Private Industry	GIS Engineer, GIS Manager, GIS/Remote Sensing Analyst	Skill set 1: Geoinformatics and its applications, Skill set 2: Geoinformatics and IT enabled Services, Skill set 3: Geoinformatics: Algorithm development & other R&D	Analytical problem solving ability	Constant change and ability to capture and process big data	Professionals should be software independent	Innovative approaches to problem solving	
HIMANSHU GOVIL	ASSISTANT PROFESSOR	NIT RAIPUR	HGOVIL.GEO@NITRR.AC.IN	9927337832	Academia	Scientist	Skill set 1: Geoinformatics and its applications	SHOULD BE GOOD IN THE PROCESSING OF THE RECENT DATA	HYPERSPECTRAL, SAR DATA PROCESSING AND ITS APPLICATION	SHOULD BE GOOD IN THEORETICAL AND PRACTICAL	TECHNICAL ASPECTS SHOULD BE SOUND	PRACTICAL SHOULD BE MORE IN THE CLASS
Biswapati Ghara	Head, AC & PS Division, NRSC	AC & PS Division, ACG-ECSA, NRSC, Balanagar, Hyderabad 500037, Telangana	g.biswapati@gmail.com	040 23884467	Government institutes/organization other than academia	GIS/Remote Sensing Analyst	Skill set 3: Geoinformatics: Algorithm development & other R&D	Inefficiencies on computer language including matlab programming.	Application of RS & GIS on atmospheric sciences, specially on air quality monitoring/climate change study. Strong mathematical knowledge/numerical analysis and handling of big matrix of data sets including satellite & in-situ data.	Knowledge on atmospheric science/climate change & handling associated problems.	Strong mathematical knowledge/ computer language including matlab	To develop analytical power on handling any atmospheric science problem, it is required to have strong numerical mathematical analysis subject and its application within the course, which may help students to participate in development of algorithm development for retrieval of geophysical parameters from satellite data.
sanita	Manager product development	Pitney Bowes, LI - GIS	sanita.sharma@pb.com	9871012254	Private Industry	GIS Engineer	Skill set 1: Geoinformatics and its applications, Skill set 2: Geoinformatics and IT enabled Services, Skill set 3: Geoinformatics: Algorithm development & other R&D	Raster, Programming language, Databases	data analysis, Imaging	NA	Na	NA
Shalja Bahuguna	Research Scientist	NRSC/ ISRO, Hyderabad	shalja.bahuguna@gmail.com	9711925497	Government institutes/organization other than academia	Scientist, JRF/SRF	Skill set 1: Geoinformatics and its applications, Skill set 2: Geoinformatics and IT enabled Services	IT enabled GIS databases, app development	A Geoinformatics professional must know digital image processing, photogrammetry and GIS operations. In addition to this the knowledge of programming especially python (as it is used for developing tools and customized operations in ArcGIS, the widely used proprietary software) can give an edge. However govt. institutions are nowadays focusing on the use of open source technology for GIS data visualization and analysis. A professional with an experience of handling open source software (both for backend database operations as well as GIS data rendering on user interface) is preferred as most of the government projects are introduced to the public in the form of portals providing spatial services that make use of programming, database operations and GIS analysis. Those having programming skill must try for app development that utilize GIS information such as lat/long, geotagged photographs, road network etc as the app development is very much in demand.	Students should be able to process all types of digital data (raster, vector). They must try to gain experience to use all kind of remote sensing products optical & microwave (radar) through various projects and studies they undertake during 2 years. Apart from purely working on Remote sensing applications, students can also work on linking GIS database with other non-spatial databases. Creation of GIS data services, their storage and rendering through programming (as GIS database management) is an interesting aspect of Geoinformatics domain. Those interested in programming can also look into android app development that is utilising spatial information such as lat/long, geotagged photos etc.	In addition to the skill set described for MSc students, Mtech students can work on using various models(hydrology, land information/ climate etc) integrated with spatial information. They can also work on algorithm development for object oriented classification of remote sensing data processing etc.	University should encourage students to take up projects that require field work and handling of field instruments in addition to the lab work on softwares.
Karwal Nayan Singh	Research Associate	Darbari Seth Block, IHC complex, Delhi	karwalnayan@gmail.com	919582E+11	Not for Profit	Researcher	Skill set 3: Geoinformatics: Algorithm development & other R&D	With B.Tech background in some professional course like forestry, Geology, Geography, Water resources, Air pollution or Agriculture.	More technical skills on computers, forestry, geology, agriculture and modeling.	Atleast they have programming skills in some programming languages with the knowledge on climate change, natural resources, water resources and government policies related to climate change and renewable energy etc.	It would be good if they have more technical skills on WebGIS and spatial modeling with the knowledge of policy issues and good computer knowledge.	Re-Design the Geo-informatics course in such a way that they learn core of the upcoming programming languages in each of the semester. TERI uni should teach them Climate change, other environmental issues like agriculture and forestry and policy issues related to renewable, climate change and water.

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02-06-2015 12:13	M.Sc in Climate Science and Policy	Suruchi Bhadwal	TERI	Understanding the vulnerability of Rural Livelihoods of East and South Sikkim	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Vishaka has been a dedicated intern. She is hard working and proactive in approach.			1 or 2	1 or 2	1 or 2						1 or 2	Lack time	Climate Science, Impacts, Vulnerability	Is dependent on availability	
02-06-2015 12:21	M.Sc in Climate Science and Policy	Suruchi Bhadwal	TERI	Understanding differential vulnerability to climate change: A case study	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Sincere. Hard working candidate. has good aptitude towards work. Creative in outputs.			1 or 2	1 or 2	1 or 2						1 or 2	Lack of time	Climate Science, Impacts, Vulnerability	Depends on availability of positions	
02-06-2015 12:30	M.A. in Sustainable Development Practice	Suruchi Bhadwal	TERI	inter-regional electricity trade - A beneficial mechanism to propagate a	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	He is a sincere and hard working intern. Creative in ideas and is dedicated towards work.			1 or 2	1 or 2	1 or 2						1 or 2	Lack time	Climate Science, Impacts, Vulnerability	Depends on availability of poistions	
02-06-2015 12:40	M.Tech in Renewable Energy Engineering	Rashmi Ranjan	IORA Ecological Solutions Private Limited	Clean Energy Initiative under Swachh Bharat Abhiyan	Very Good	Very Good	Excellent	Very Good	Excellent	Very Good	Excellent	Very Good	Very Good	Very Good															
03-06-2015 12:29	Master of Arts in Sustainable Development Practice	William Joe	Institute of Economic Growth, Delhi	Health of Elderly in India: Evidence from Building Knowledge Base of Population	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding																
03-06-2015 12:47	M.Sc. ESRM	Dr. Suresh Jain	TERI University	AIR POLLUTION EXPOSURE ASSESSMENT USING INTEGRATED	Excellent	Excellent	Very Good	Outstanding	Very Good	Outstanding	Excellent	Outstanding	Outstanding	Overall Sandeep's performance is very good.															
03-06-2015 12:48	M.Sc. ESRM	Dr. Suresh Jain	TERI University	AIR POLLUTION EXPOSURE ASSESSMENT USING INTEGRATED	Excellent	Excellent	Very Good	Outstanding	Very Good	Outstanding	Excellent	Outstanding	Outstanding	Overall Sandeep's performance is very good.															
03-06-2015 12:49	M.Sc. ESRM	Dr. Suresh Jain	TERI University	AIR POLLUTION EXPOSURE ASSESSMENT USING INTEGRATED	Very Good	Very Good	Excellent	Outstanding	Excellent	Very Good	Excellent	Excellent	Outstanding	Overall his performance is very good.															
04-06-2015 10:06	MA SDP	Sushim Man Amatya	Alternative Energy Promotion Center	Study About the Changes in the Income Level Before and After the	Excellent	Excellent	Very Good	Excellent	Outstanding	Excellent	Outstanding	Excellent	Outstanding	Smita has been found to be a punctual and hard working student. She was in mid-western Nepal to			1	1											
04-06-2015 10:55	REEM	Deepthaa Kumar	SELCO Foundation	Solar Dryers	Very Good	Excellent	Very Good	Very Good	Excellent	Excellent	Excellent	Excellent	Above Average	Rohit was able to understand the problem statement very well and devise holistic solutions.											I would suggest including more training	Clean cooking, Agricultural products - post processing			
04-06-2015 13:41	MTECH (RENEWABLE ENERGY ENGINEERING	Birjendra Sangwaiya	Emergent Ventures India Pvt Ltd	DESIGNING OF UTILITY SCALE SOLAR POWER PLANT (SOLAR	Excellent	Excellent	Outstanding	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Khushboo has taken considerable efforts to learn both commercial and technical aspect of											- Use of various active software in	RE Zones combining Wind , Solar and Biomass	Our HR would be able to address .		
04-06-2015 15:08	M.Tech. (Urban Development Management)	Rajiv Sharma	HUDCO	Last Mile Connectivity for efficient Public Transport System	Outstanding	Excellent	Excellent	Very Good	Very Good	Very Good	Excellent	Excellent	Excellent	This was an innovative project in which field survey as well as analysis was done towards			1							1	1	In-house faculty strength.	Housing for economically weaker sections of the	HUDCO has been hiring professional	
04-06-2015 18:36	Master Thesis	Dr Poulomi Banerjee	SaciWATERS	Tanker Economy	Below Average	Average	Average	Average	Average	Average	Average	Average	Average	Sana is a good student with understanding of the subject matter. However the draft report submitted											students are encouraged to enhance the capability	periurban, water supply and sanitation, water quality.	we are not planning now, all depends on		
10-06-2015 17:59	Environmental Studies and Resource Management	Dr. Aditya Bastola	SaciWATERS	Brahmaputra Dialogue	Good	Very Good	Very Good	Good	Excellent	Very Good	Very Good	Very Good	Very Good	She has been a sincere student.										1 and Ma	I think there should be more follow-up to the	Peri-Urban Water Security, Water Quality and Sanitation.	Yes, will circulate our openings in the near		
11-06-2015 15:59	Master of Arts in Sustainable Development Practice	Ashwin A.S.	Iora Ecological Solutions Private Limited	Development of an intervention to reduce the deforestation and forest degradation in	Above Average	Average	Average	Good	Good	Average	Good	Good	Above Average	He is good in field data collection and data analysis.															
12-06-2015 21:59	M.Tech (RE)	Akanksha Chaurey	IT Power India	Component and material specifications for CST technologies	Good	Above Average	Good	Average	Average	Good	Good	Good	Very Good												1- Major	None	solar, energy policy, energy efficiency	yes	
15-06-2015 10:19	M.Tech Renewable Energy Engineering	Devin Narang	Sindicatum Carbon Capital	Solar	Outstanding	Excellent	Outstanding	Outstanding	Excellent	Outstanding	Excellent	Excellent	Excellent	As an intern Aaron has been an excellent performer											2	Upto standard	Renewable energy	Yes M.Tech RE Engg and Mgmt	

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06-05-2016 10:29	MA (SDP)	TAMAL SARKAR	FOUNDATION FOR MSME CLUSTERS	Factors that create a successful Common Facility Center (CFC) in India- A case study	Very Good	Good	Good	Outstanding	Excellent	Very Good	Very Good	Very Good	Excellent	Outstanding	A VERY GOOD STUDENT AND WILLING TO LEARN WITH VERY POSITIVE ATTITUDE.	2																OUR JOB REQUIRES BASIC UNDERSTANDING	Cluster Sustainability	HR will know better.	
06-05-2016 12:35	Environmental Studies and Resource Management	O.K.Remadevi	Environmental Management and Policy Research Institute	To Assess the Vulnerability of Food Security to Climate Change	Excellent	Outstanding	Excellent	Outstanding	Excellent	Excellent	Excellent	Excellent	Excellent	Outstanding	The student is with excellent research aptitude and analytical skills and is capable of executing field works and collection of data with her	-	-	minor and 1 for major	for minor and 1 for	1	-	-	-	-	-	for minor and 1 for	and research can be oriented to tackle the environmental al issues and	Management & Policy Research Institute (EMPRI), Bangalore is	Manpower is hired on adhoc basis as per the requirements in research						
06-05-2016 14:21	Tourism Mission	Shri. Augustus Suting	Meghalaya Basin Development Authority	A study on the significance of Sustainable Tourism in Meghalaya	Excellent	Excellent	Excellent	Excellent	Outstanding	Very Good	Very Good	Very Good	Excellent	Excellent	Innovative and takes initiative	2	2	2	4	4	1	1	0		0	2	More field work and participatory approach	1. Seed Bank of local vegetables 2. Action	not at this juncture						
06-05-2016 14:57	WOTR-TERI Internship	Chhaya Nikrad	WOTR	GEO-Informatics	Excellent	Outstanding	Outstanding	Excellent	Very Good	Outstanding	Excellent	Excellent	Excellent	Excellent	We found Anuja very sincere and hardworking. We wish her a great success in her future																				
06-05-2016 15:21	WOTR-Teri Internship Program	Chhaya Nikrad	WOTR	GEO-Informatics	Above Average	Very Good	Good	Good	Above Average	Very Good	Very Good	Very Good	Good	Good	During her stay in Ahmednagar, Aksheyta did not mix up with other team members.																				
07-05-2016 14:59	MSc ESRM	M. SEKHAR	IISc	Towards Sustainable Agriculture	Outstanding	Excellent	Very Good	Outstanding	Excellent	Excellent	Excellent	Excellent	Excellent	Outstanding	Ms. Sanhita is regularly in touch with me and my colleague Dr. Laurent Ruiz who is also involved in mentoring her during her project work at IFCWS.																				
09-05-2016 15:54	MTech Water Science and Governance	Dr. Y Lingaraju	The Art of Living	Impact Assessment of River Rejuvenation Project: A case study of Lakya Watershed.	Very Good	Good	Excellent	Excellent	Very Good	Excellent	Excellent	Excellent	Outstanding	Excellent	Chosen a very good topic which is of topical interest and very much necessary for the present society.																	River Rejuvenation, Groundwater Recharge.			
09-05-2016 16:47	Summer Internship	Praneeth Koppineni	WaterHealth India Pvt Ltd	Study and Design of treatment process to recover R.O. reject water	Average	Marginal	Marginal	Below Average	Good	Below Average	Marginal	Below Average	Marginal	Marginal									2 Major		2 Major	2 Major	Need to work on improving practical	Projects related to water treatment methods and							
11-05-2016 08:47	PG Water Studies	Rajesh Ayapilla	Coca-Cola India Private Limited	Emerging regulatory aspects of Water in India	Excellent	Very Good	Very Good	Very Good	Very Good	Excellent	Very Good	Very Good	Very Good	Excellent	Pallavi has exhibited excellent initiative in doing research for her project and reached out to many																				
11-05-2016 10:04	MTECH (WSG)	Ranjana Ray Chaudhuri	TERI University	Study of infiltration rates in south Delhi	Excellent	Good	Very Good	Excellent	Very Good	Outstanding	Very Good	Very Good	Excellent	Excellent	Qazi has worked very hard on the project, has been regular with field work and data analysis.			2								2	Qazi was an internal student	projects related to water and waste water							
11-05-2016 10:26	MSc WSG	Ranjana Ray Chaudhuri	TERI University	Comparative study of urban slums of South Delhi	Very Good	Very Good	Very Good	Excellent	Excellent	Very Good	Excellent	Excellent	Very Good	Good	Aparna has shown a lot of initiative in going to slums of South West Delhi and collect data. She has also carried out household surveys. She has done			2								3		water and waste water related research in department of regional water							
11-05-2016 11:43	Formation of White Papers	Himanshu Gupta	GE Water & Process Technologies	Formation of Technical White Papers	Very Good	Very Good	Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good	Excellent	We are quite happy with the efforts being put on the project. We wish her good luck for future.	2		1								1	I think they need to go deeper further on								
11-05-2016 11:46	Business Plan with Food Parks	Himanshu Gupta	GE Water & Process Technologies	Business Exploration in Food Parks for GE Water	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Excellent	Meenakshi is working hard with us, she is trying to understand why we want to do this survey and																				
11-05-2016 15:23	-	Sachin Kumar	TERI	Mapping of air pollutants emitted from brick kilns	Very Good	Very Good	Good	Very Good	Very Good	Excellent	Excellent	Very Good	Very Good	Good	Saarthak is a sincere student and put in efforts to undertand the assigned task	-	-	-	-	-	-	-	-	-	-	-	-		Energy Audit	-					
11-05-2016 17:10	ASAL/Sanitation Mapping in Vizag	Meghna Malhotra	Urban Management Centre	Ahmedabad Sanitation Action Lab/Sanitation Mapping in Visakhapatnam	Excellent	Good	Good	Very Good	Good	Good	Very Good	Very Good	Very Good	Excellent	Lakshmi is a dedicated professional, she has good technical knowledge and is a team worker. Also being telegu speaking, Lakshmi helped our team to understand		1				1			1			Technical skills in GIS/ excel based analysis	sanitation, heritage management, capacity building of urban local bodies,	Yes,						

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16-05-2016 12:25	Environment Studies and Resource Management	Arvind L Sha	Public Affairs Centre	Toward a Better City Index	Excellent	Good	Very Good	Outstanding	Outstanding	Outstanding	Excellent	Outstanding	Outstanding		0/0	0/0	###	###	0/1	0/0	0/0	###	0/1	##	There is a need for teaching the concepts of	Urban Resilience, Water Governance,		
16-05-2016 15:29	M.A. (Sustainable Development Practice),	Dr. Lucky Singh, Scientist 'C'	National Institute of Medical Statistics (NIMS), ICMR, New Delhi	Examining the relationship between quality of maternal care and neonatal	Outstanding	Outstanding	Excellent	Excellent	Excellent	Outstanding	Excellent	Outstanding	Outstanding	Progress is Satisfactory.									2 (one for	Excellent.	Population and Health	Yes. As a Research staff to engage in		
17-05-2016 17:28	Geoinformatics	Sreenivas Bingi	RMS Risk Management Solutions India Pvt. Ltd	DEVELOPMENT AND VISUALIZATION OF SPATIAL DATA REPOSITORY	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Outstanding	Outstanding	I am very much pleased about the work Madhur has done in our organization. His over all demonstrating right attitude & initiatives					##									
19-05-2016 18:17	M. TECH (UDM)	ARVIND TYAGI	ICT PVT. LTD.	HIGH SPEED RAIL CORRIDOR (NEW DELHI-KOLKATA)	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent															
19-05-2016 19:29	Environmental Studies and Resource Management	Edmund Yakani	CEPO	Identifying the role of CEPO in the South Sudan NAPA to Climate Change with focus on livelihood	Excellent	Very Good	Excellent	Excellent	Excellent	Very Good	Excellent	Very Good	Outstanding	During his internship period with us, Mr. Samuel proved to be innovative, he could present new ideas to the	3 Min or & 2 Maj	N/A	1 Min or 1 Maj	1 Min or	N/A	N/A	N/A	N/A	2 Min or 1 Maj	N/A	Based on our experience with your student Mr.	Basically we do not provide specific thematic areas for Research,	This depends on available projects and funds	
19-05-2016 21:41	M. TECH (UDM)	ARVIND TYAGI	ICT PVT. LTD.	DEVELOPING CONCEPT PROPOSAL FOR DPR UNDER HRIDAY	Outstanding	Outstanding	Excellent	Excellent	Excellent	Outstanding	Excellent	Outstanding	Excellent	TAKES PRO-ACTIVE INITIATIVES														
20-05-2016 14:42	M.Sc. Climate Science and Policy	Ms. Suchita Awasthi	Watershed Organisation Trust	Integrated Vulnerability Assessment to Climate Change in	Very Good	Excellent	Excellent	Excellent	Outstanding	Very Good	Excellent	Excellent	Outstanding	Ms. Payal Negi is a very diligent candidate. Her skills for understanding the problem and analysing	0	0	2	2	2	0	0	0	2	2		Climate Change Adaptation, Rural		
22-05-2016 08:29	MSc (Geoinformatics)	Prof. P K Joshi	Environmental Sciences, Jawaharlal Nehru University, New Delhi	VULNERABILITY ASSESSMENT OF WHEAT AND PADDY CROPS UNDER	Outstanding	Outstanding	Excellent	Outstanding	Excellent	Excellent	Outstanding	Outstanding	Ms Vanshikha is one of the most disciplined and self motivated studies I have met in TERI	0	0	1	1	2	0	0	0	0	0	emphasis is needed on: (i) practicals (image	(RS & GIS), ecosystem studies, climate change,	I have advertised two positions. Please		
22-05-2016 08:29	MSc (Geoinformatics)	Prof. P K Joshi	School of Environmental Sciences, Jawaharlal Nehru University, New Delhi	FOREST COVER DYNAMICS IN INDIA QUANTIFIED USING GOOGLE EARTH ENGINE	Excellent	Outstanding	Excellent	Outstanding	Excellent	Excellent	Outstanding	Outstanding	Mr Ankit is a hardworking and extremely sincere student. He has taken-up a newest research problem of using Google	0	0	1	1	2	0	0	0	0	0	emphasis is needed on: (i) practicals (image processing &	(RS & GIS), ecosystem studies, climate change, sustainability	I have advertised two positions. Please have a look		
22-05-2016 09:44	Swachh Bharat Mission	Sameer Jain	KPMG/ WASHI	CSU for Swachh Bharat Mission (Faridabad)	Outstanding	Excellent	Very Good	Outstanding	Very Good	Outstanding	Excellent	Outstanding	Vaibhav has shown excellent initiative since Day 1 that he joined as an intern and has show proactive communication, team and client															
22-05-2016 10:47	Climate Science and Policy	Renie Thomas	Watershed Organisation Trust	The impacts of rainfall variability and Land Use and Land Cover (LU-LC) changes on the groundwater level	Outstanding	Very Good	Excellent	Outstanding	Very Good	Very Good	Outstanding	Outstanding	During her internship at WOTR (Pune), I found Ms. Kalairasi Ka Sa committed and methodical towards the assigned task, and hard			One (Major)						One (Major)						
22-05-2016 11:12	Environmental Studies and Resource Management	Renie Thomas	Watershed Organisation Trust, Pune	Comparative assessment of natural springs from Akole and Sangamner	Outstanding	Excellent	Very Good	Outstanding	Excellent	Very Good	Outstanding	Outstanding	During her internship at WOTR (Pune), I found Ms. Geetu Thakur always ready to explore new			One (Major)						One (Major)			Geophysical, hydro-geological, Groundwater			
22-05-2016 17:40	Masters	Kunal Sharma	Shakti Sustainable Energy Foundation	Assessing the contribution of Indian States to setting of emission standards	Above Average	Average	Average	Very Good	Average	Average	Average	Very Good	Himani has been keen learner during her time at Shakti Foundation. She has done well in carrying out background research in support of her project and more so in reaching out to key stakeholders whom she has										my feedback is based on interactions with only one student, so it may or may not apply more broadly to a larger	renewable energy, energy efficiency, sustainable transport, climate change, air pollution				

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4/27/2017 16:59	xxxxxxxxxxxxxx	MASDP	Anuttama Dasgupta	Indian Institute for Human Settlements	Individual Capacity Building of Officials of ULBs of 3 AMRUT cities of Rajasthan	Excellent	Excellent	Excellent	Outstanding	Excellent	Outstanding	Excellent	Outstanding	Outstanding	Outstanding	Noor was very meticulous and thorough in whatever task she was assigned. In research as well as in general management tasks we found her to be very self motivated. She sought help when she needed it and always delivered assigned work on time. In short, she was a great asset to our team.	1	0	0	0	0	0	0	0	0	1		0	0	Knowledge of central government sponsored urban missions and related policy framework	Individual Capacity Building for Urban Infrastructure Development and Planning	No	
5/2/2017 6:14	xxxxxxxxxxxxxx	ESRM	Neeti	TERI University	Implication of land use/land cover change on hydrology of mid-ganga river basin	Excellent	Excellent	Very Good	Excellent	Excellent	Very Good	Excellent	Excellent	Excellent	Excellent																		
5/2/2017 10:39	xxxxxxxxxxxxxx	CLIMATE SCIENCE AND POLICY (MSc)	Barendra Krushna Sahoo	CTran Consulting Limited	VULNERABILITY ASSESSMENT AND CLIMATE CHANGE ADAPTATION IN WATER SECTOR IN A GRAM PANCHAYAT OF DISTRICT BILASPUR, HIMACHAL PRADESH	Very Good	Excellent	Very Good	Good	Very Good	Very Good	Excellent	Very Good	Good	Good																CTran offers consultancy services to its valued clients in the domains of infrastructure energy and environment sector, with special emphasis on clean development mechanism. Cross cutting areas of delivering live policy research, governance, institutional development, training and capacity building, in the above mentioned sectors are also undertaken. One of the key modes of delivery includes PPP (Public Private Partnership) and PPCTP (Public Private Community Partnership) models in several sectors demystifying policy and institutional constraints through probing research and survey. The	Its the main responsibility of HR section of the organisation.	
5/2/2017 10:47	xxxxxxxxxxxxxx	MSc in Climate Science and Policy	Barendra Krushna Sahoo	CTran Consulting Limited	Vulnerability assessment and climate change adaptation in water sector in a Gram Panchayat of District Bilaspur, Himachal Pradesh	Excellent	Excellent	Excellent	Excellent	Outstanding	Excellent	Outstanding	Excellent	Very Good	Outstanding	She is sincere and has dedication towards her work.															No comments	CTran offers consultancy services to its valued clients in the domains of infrastructure energy and environment sector, with special emphasis on clean development mechanism. Cross cutting areas of delivering live policy research, governance, institutional development, training and capacity building, in the above mentioned sectors are also undertaken. One of the key modes of delivery includes PPP (Public Private Partnership) and PPCTP (Public Private Community Partnership) models in several sectors demystifying policy and institutional constraints through probing research and survey. The	
5/2/2017 11:45	xxxxxxxxxxxxxx	Msc. Environmental Studies and Resource Management	M. Ananda Kumar	Nature Conservation Foundation	Assessing Elephant Dung Rate in a Forest-Plantation Mosaic of the Valparai Plateau, Annamalai Hills, Southern India	Excellent	Excellent	Very Good	Outstanding	Outstanding	Excellent	Outstanding	Excellent	Outstanding	Outstanding	She is a very hard working person with dedication and punctuality in the project work. Eager to learn and timely delivery of project outputs is as asset to complete assigned project objectives.															Training Behavioral statistics using R language is very helpful as it has been widely used, encouraged, and accepted.	Ecological research On-ground conservation experimentation in selected and model landscapes	Not in the near future but will let you know when such occasions arise.

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5/3/2017 9:28	xxxxxxxxxxxxxx	MASDP	Nandita Pradhan Bhatt	PRIA	Ending Sexual Harassment: Making Institutions Accountable towards Women Workers in Informal Sector	Very Good	Very Good	Very Good	Outstanding	Very Good	Excellent	Excellent	Very Good	Outstanding	Outstanding	Varuna's dedication and commitment to the work assigned to her was exemplary.	2 Major															2 Major	2 Major	2 Major		gender, sexual harassment, urban governance, water, sanitation, health, rural governance, civil society, violence against women and girls	yes, we have been communicating with your institution
5/3/2017 10:37	xxxxxxxxxxxxxx	Masters in Sustainable Development	Dr Amit Tuteja	Connecting Dreams Foundation	Rural women entrepreneurship	Very Poor	Poor	Poor	Very Poor	Marginal	Poor	Poor	Poor	Very Poor	Poor	A minimal score is given as I was not able to access. I have very limited interaction with him due to his non regularity in the project. His internship is not complete from our end.																					
5/3/2017 11:17	xxxxxxxxxxxxxx	Transport	Ravi Gadepalli	Shakti Sustainable Energy Foundation	Key determinants of Vehicle ownership in Indian Cities	Very Good	Excellent	Very Good	Outstanding	Excellent	Very Good	Outstanding	Outstanding	Excellent	Very Good	Neha is a hard-working person who is very enthusiastic about her work and in learning new things. She has gone about her work sincerely and interacted with me regularly to understand if she's going in the right direction. Her area of work is relatively new in India and if published-can potentially inform many new research projects on the topic. Her work ethics have been very good as well.	0	0	0	0	0	0	0	0	1		0	0					The TERI coursework can improve in its analytical rigour.	Transportation, Urban Development, Freight, Public Transport	No		
5/4/2017 12:52	xxxxxxxxxxxxxx	Climate Science and Policy	Dr. Sagnik Dey	IIT Delhi	Vulnerability of Indian cities with half million population to ambient PM2.5 exposure	Outstanding	Outstanding	Excellent	Outstanding	Excellent	Excellent	Outstanding	Excellent	Outstanding	Outstanding	She has shown tremendous improvement during her tenure here. She learnt many new tools and has been working on an important problem - pollution. She is extracting PM2.5 statistics for more than 100 Indian cities using satellite-based approach. The data are very important as most of the places do not have any in-situ monitoring. Vulnerability ranking of the cities is also a new idea. She has great potential to become a good researcher.																	More hands-on training on modeling and statistical analysis using Matlab/R Aerosol-Cloud-Climate Interaction Air Quality, Climate Change and its Impact on Human Health Remote Sensing of Earth's Atmosphere and Climate	For Indo-UK project that is expected to start by end May			
5/9/2017 18:09	xxxxxxxxxxxxxx	MASDP	Nandita Pradhan Bhatt	PRIA	Ending Sexual Harassment: Making institutions accountable towards women workers in informal sector	Outstanding	Very Good	Very Good	Outstanding	Outstanding	Excellent	Outstanding	Very Good	Outstanding	Outstanding	Varuna is dedicated, motivated and passionate - her contribution was very valuable - we wish her all the best.	2 major			2 major												2 major	2 major	2 major			
5/9/2017 18:38	xxxxxxxxxxxxxx	Internship	Dr. Siddappa Setty R	ATREE	ENTERPRISE-BASED CONSERVATION AND COMMUNITY PERCEPTION IN WESTERN GHATS, KARNATAKA	Excellent	Excellent	Excellent	Outstanding	Outstanding	Excellent	Excellent	Outstanding	Outstanding	Outstanding	Ms. Ruchi is hardworking, interested in working with the forest landscapes and tribal community. Has good communication skill both writing and oral. She is one of the outstanding interns worked with me. I wish her all the very best Siddappa	Able to take a student , 20 weeks	No	1 can take 2 to 3 students, 8 weeks	Able to take a student, 20 weeks	No	No	No					Able to take a student for 8 weeks		Able to take a student	A student to work on Governance issue	Currently teaching Participatory Resource Monitoring techniques, ecological methods to our PhD students, and teaching electives E7: The ecology and socio-economics of NTFP (1.5 credits). I would be happy to teach these courses, but I have to see my schedule.	Sustainable use of forest resources with special reference to Non-timber forest products, enterprise based conservation, agroforestry, restoration, community and conservation, corridor restoration etc.	Yes, Faculty/ post doc fellow to work on forest and governance related issues.			
5/9/2017 18:45	xxxxxxxxxxxxxx	Forest and Governance	Dr. Siddappa Setty R	ATREE	Traditional knowledge on monitoring Non-timber forest products and its sustainability - a case study of Soliga tribe in Karnataka	Excellent	Excellent	Excellent	Outstanding	Excellent	Outstanding	Outstanding	Excellent	Very Good	Outstanding	Mr. Ketan is very good, hard working. He loved field work, exploring things in the field and talking to community. He has a special interest to work with the indigenous community. He is one of our excellent interns. I wish him all the very best for his future. Siddappa Setty																					

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5/16/2017 11:01	xxxxxxxxxxxxxx	M Sc Climate Science & Policy	Sumita Sachdeva	Jugapro	Efficacy of Rain water Harvesting using modular system	Very Good	Excellent	Very Good	Excellent	Very Good	Very Good	Excellent	Excellent	Excellent	Outstanding	Priyam Handa is very keen to learn all the new things come on her way. She is hardworking, sincere and ready to accept any challenges.				1	2									2				
5/17/2017 8:32	xxxxxxxxxxxxxx	Climate Science and Policy	Rahul Rana	Climate Connect	Assessing the effectiveness of China's pilot emission trading system by forecasting trends in emissions based on Kaya identity parameters: The case of Beijing, Shanghai, Guangdong	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Sahil is a sharp and hard working individual who with the right attitude can achieve great success.																		
5/17/2017 11:34	xxxxxxxxxxxxxx	UDM	Ankit Tulsyan	Quality Council of India	Policy Framework gap- A case study of Swachh Survekshn 2017	Good	Good	Good	Above Average	Above Average	Good	Good	Good	Above Average	Good		2		1	0	1				2		2	2	The students are dedicated and hard working. Need to work upon research skills a bit more.	Monitoring and large scale assessment of Govt. projects/initiatives.	May consider.			
5/17/2017 12:03	xxxxxxxxxxxxxx	ESRI	Dr. Sarnam Singh	Indian Institute of Remote Sensing, ISRO	Man Elephant conflict assessment in Kalsowar-Corbett Landscape of Shivalik Hills	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Excellent	Outstanding	Excellent	Outstanding	Ms. Megha Shruti is worked as intern at Forestry & Ecology Department of IIRS from January, 2 to May 22, 2017. I found her quite independent and brilliant in her approach in understanding the subject issues, clarity, hypothesizing and setting objectives. She is excellent in handling RS&GIS software for satellite data processing for mapping and GIS for analysis of the data-set to meet the objectives. I am impressed that she was able to work without much hand-holding'. I also found a very keen learner and comes out with new ideas and interpretation of the facts and data-sets. She is very energetic with lot enthusiasm. She goes well along with her lab-mates. I see her a budding scientist given an opportunity.	Nil	Nil	2-3 Major	2-3 Major	2-3 Major	Nil	1-2 Major	1-2 Major		1-2 Major	2-3 Major	I have never interacted with your faculty or seen your syllabus, therefore unable to comment.	To be decided by TERI based on your institutional goals and responsibilities.	We do not hire persons for short term basis.				
5/17/2017 12:11	xxxxxxxxxxxxxx	Climate Science and Policy	NIRUPAM DATTA	TERI UNIVERSITY	Assessing the Risk and Ambiguity Preferences of Masters Students in Their Choices of Health Insurance Options at the Backdrop of Climate Change	Good	Average	Average	Above Average	Average	Very Good	Very Good	Average	Average	Good																			
5/17/2017 19:31	xxxxxxxxxxxxxx	Climate Science and Policy	Shrinivas Badiger	Ashoka Trust for Research in Ecology and the Environment	CHANGING CROPPING PATTERNS AND ITS IMPLICATIONS ON HOUSEHOLD FOOD SECURITY AND NUTRITION	Good	Good	Good	Excellent	Very Good	Excellent	Excellent	Very Good	Excellent	Excellent	I would rank her in the top 5% of the students I have supervised, in terms of motivation and hard work.	0	0		1	0	0	0	0		1	1					yes, depends on the capacities and motivation of the students.		
5/17/2017 22:06	xxxxxxxxxxxxxx	Environment al Studies and Resource Management	Veenu Srinivasan	ATREE	Impact of Sewage Mining on Urban Lakes	Excellent	Very Good	Very Good	Above Average	Very Good	Excellent	Above Average	Good	Average	Excellent	I was not able to devote as much time as I would have liked to Shushank. He is basically smart and seemed to pick up useful skills. His understanding of the problem was excellent. He was able to work independently and was always cheerful and a good team player. I was slightly disappointed that he had not visited some of the key lake inlets (barely 30 min from the office) which I did not realize till the last day, which is why I feel is field work skills could have been better.												1				groundwater, socio-hydrology, water governance, lakes, urban, wetlands, ecological flows		
5/18/2017 9:47	xxxxxxxxxxxxxx	Environment al Studies and Resource Management	Jagdish Krishnaswamy	Ashoka Trust for Research in Ecology and the Environment	Black occupancy in Moyar Valley	Excellent	Very Good	Very Good	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Outstanding	Devika did a field based project under difficult logistical and terrain conditions. She has a very bright future in ecology.			1. Major										More exposure to selected readings based on field data	Ecologyhydrology, landscape ecology, biodiversity, forest ecology	Field ecology			

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5/19/2017 15:10	xxxxxxxxxxxxxx	M.Sc. Climate Science & Policy	Barendra Krushna Sahoo	CTRAN Consulting Limited	ASSISTING PROJECT MANAGEMENT UNIT (PMU), GOVERNMENT OF ODISHA, FOR IMPLEMENTATION OF NAFCC PROJECT, NUAPADA, ODISHA	Outstanding	Excellent	Excellent	Outstanding	Excellen	Excellent	Excellent	Excellent	Outstanding	Outstanding				1 Major															CTRAN is best known for its focus on development sector in India with widely recognized expertise in providing social development and management advisory services in various sectors, including livelihoods, health, education, urban Development, natural resource management, governance, Monitoring & Evaluation, rehabilitation & resettlement etc. The wide spectrum of development advisory services provided by CTRAN are basically in the aforementioned operational domains. Cross cutting areas addressed through advisory are policy	Kindly converse with the HR section for the relevant information.
5/19/2017 15:15	xxxxxxxxxxxxxx	M.Sc in Climate Science and Policy	Barendra Krushna Sahoo	CTRAN Consulting Limited	VULNERABILITY ASSESSMENT AND CLIMATE CHANGE ADAPTATION IN WATER SECTOR IN A GRAM PANCHAYAT OF IDENTIFIED DISTRICT, HIMACHAL PRADESH	Outstanding	Excellent	Excellent	Very Good	Very Good	Excellent	Excellent	Excellent	Very Good	Outstanding				1 Major															CTRAN is best known for its focus on development sector in India with widely recognized expertise in providing social development and management advisory services in various sectors, including livelihoods, health, education, urban Development, natural resource management, governance, Monitoring & Evaluation, rehabilitation & resettlement etc. The wide spectrum of development advisory services provided by CTRAN are basically in the aforementioned operational domains. Cross cutting areas addressed through advisory are policy	

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5/20/2017 23:47	xxxxxxxxxxxxxx	M.Sc. (Environment Science and Resource Management)	Dr. Ram Babu	RSM GC Advisory Services, Navi Mumbai	Study of circularity for an acrylic fiber production plant	Outstanding	Very Good	Very Good	Excellent	Excellent	Excellent	Excellent	Excellent	Outstanding	Outstanding	She was committed to learning more than the project work. She has also helped in the ongoing projects in sustainability consulting. Overall excellent student.	1		1	1					1								Sustainability, climate change, renewable energy, ESG, future proofing, ESMS	
5/21/2017 13:34	xxxxxxxxxxxxxx	Major Project	I. Suresh	CSIR - National Institute of Oceanography	OBSERVED INTERANNUAL VARIABILITY OF UPWELLING SYSTEMS IN THE WESTERN ARABIAN SEA DURING BOREAL SUMMER	Outstanding	Excellent	Excellent	Outstanding	Outstanding	Outstanding	Excellent	Excellent	Outstanding	Outstanding	Sadhvi is an excellent student and is highly motivated to do research. She has completed the assigned tasks in time. She used to discuss her work from time to time and is always open to take up challenges that came up during her work. I hope she would continue working on the dissertation work, which can potentially lead to a publication. I wish all the best for her career.			1 Major	1 Major										You may consider inviting external experts from various fields to give lecture to your students to get them exposed to the recent research topics.	Physical oceanography, Climate change, global warming, Numerical modeling, Ocean biogeochemistry, Paleo oceanography, Georesources, Geohazards,	Yes. My work involves understanding the physical and biogeochemical response of the Indian ocean to the recent warming under climate change. I have opening for project assistants (PA) with 3 to 5 years tenure. PAs, who have cleared NET, will have opportunity to register for PhD. The advt. will appear on www.nio.org under temporary vacancies. I can also keep you informed if you provide the contact details.		
5/22/2017 10:00	xxxxxxxxxxxxxx	M.Sc CSP	Nithyanandam	TERI University	Vulnerability Assessment of Urban Poor to the effects of UHL.	Above Average	Above Average	Good	Good	Good	Good	Good	Above Average	Poor	Average																			
5/22/2017 10:54	xxxxxxxxxxxxxx	Climate Science and Policy	Chuhmela Jamir	TERI University	THE LIVELIHOOD VULNERABILITY OF AGRO-PASTORALIST COMMUNITIES TO CLIMATE CHANGE IN SOUTH SUDAN	Very Good	Very Good	Excellent	Excellent	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good				N.A. since Host is TU	N.A. since Host is TU										N.A. since Host is TU	N.A. since Host is TU	N.A. since Host is TU		
5/22/2017 11:16	xxxxxxxxxxxxxx	MSc. (Environmen tal Studies and Resource Management)	Hardeep Singh	Society for Promotion of Wastelands Development	To develop a methodology to measure and assess the environmental benefits of NRM woks of MGNREGA in South Rural Rajasthan	Very Good	Very Good	Very Good	Very Good	Very Good	Excellent	Very Good	Very Good	Excellent	Excellent		Feb-00	0	4-Apr	2-Feb	0	0	0	0		0	2-Feb							
5/22/2017 11:21	xxxxxxxxxxxxxx	MSc. Environmen tal Studies and Resource Management	Hardeep Singh	Society for Promotion of Wastelands Development	Climate Perceptions of households and differential impacts of MGNREGA on agriculture outcomes of households in South Rajasthan	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Very Good	Excellent	Excellent		Feb-00	0	4-Apr	2-Feb	0	0	0	0		0	2-Feb							
5/22/2017 11:27	xxxxxxxxxxxxxx	MSc. Environmen tal Studies and Resource Management	Hardeep Singh	Society for Promotion of Wastelands Development	Food consumption score, dietary diversity and how they are impacted by household level characteristics - insights from two blocks of Pundia District	Very Good	Very Good	Very Good	Excellent	Excellent	Excellent	Very Good	Very Good	Excellent	Excellent		Feb-00	0	4-Apr	2-Feb	0	0	0	0		0	2-Feb							
5/22/2017 11:32	xxxxxxxxxxxxxx	Geo Informatics	Rahul Kaul	Wildlife Trust of India	Distribution modelling of Tragopan species in India using GIS	Very Good	Good	Good	Good	Good	Above Average	Average	Good	Very Good	Excellent	Suman embarked on a completely new project and it took her some time to understand what the project entailed. Once she grasped the subject she made good progress.			2												Natural rResource Management Wildlife Conservation Policy advocacy Man wildlife conflict Species Recovery	We are a wildlife conservation organisation and would like to recruit potential candidates who meet our skill expectations in the above stated subjects		

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5/23/2017 19:19	xxxxxxxxxxxxxx	Infrastructure Systems and Processes: Improving Resource Recovery Acceptance and Life Cycle Performance	Allie Davis	University of Colorado Boulder	Infrastructure Systems and Processes: Improving Resource Recovery Acceptance and Life Cycle Performance	Outstanding	Excellent	Very Good	Good	Good	Outstanding	Outstanding	Average	Good	Very Good	Overall, Sridhar was an excellent addition to the team and excelled at the extensive data collection and fieldwork. He was flexible and willing to work hard for a very busy schedule and adapted easily to schedule changes and long travel. Our schedule often included long days which were mentally taxing, but Sridhar persisted despite tiredness and was a valuable asset to the data collection. His knowledge of Tamil Nadu and water and sanitation was also very helpful for the project. Over the course of the internship, there were several occasions where Sridhar did not complete work on time or informed me of changed plans after a decision was already taken. For example, the internship tasks included some data analysis, typed observations, and technical calculations and more than once these deliverables were completed more than a month after the deadline. In addition, there were a few occasions where Sridhar was unable to attend a meeting or consultation.	0	0	1	0	0	0	0	1		1	1	The university does a great job of providing a multidisciplinary educational experience for students, and the internship/project provides hands-on experience.	Sustainable Sanitation Resource Recovery Community Participation Life Cycle Assessment Qualitative Comparative Analysis Analytical Hierarchy Process Disaster Management Research Risk Mitigation and Management	There is potential to hire a research assistant between September 2017 and May 2018 for follow up data collection. We are interested to have an intern join the project for June 2017 - July 2017 term, but the internship work will all occur remotely (i.e., completed on the computer with minimal fieldwork). We are also interested to take another intern for field work during the January 2018 - June 2018 term.
5/23/2017 22:47	xxxxxxxxxxxxxx	M.Tech in Urban Development and Management	Vivek V Vishwasrao	Tata Power	Study Of Impact Urbanisation on Water, Agriculture & Pisciculture in Pune District Maharashtra	Outstanding	Excellent	Very Good	Excellent	Very Good	Excellent	Very Good	Very Good	Very Good	Very Good	Very sincere and hard working. Focused and Committed to his work. A good learner with innovative ideas.			1/Minor				1 Minor				Should focus more on practicals and field work	Biodiversity, Corporate Social responsibility, Renewable energy	Not now	
5/25/2017 10:11	xxxxxxxxxxxxxx	M.Tech Water Science and Governance	Sunil K Mathew	Hindustan Coca-Cola Beverages Pvt Ltd.,	Gap Analysis of the performance of ETP and effluent discharge compliance for plants of Hindustan Coca-Cola	Outstanding	Excellent	Very Good	Excellent	Excellent	Excellent	Excellent	Outstanding	Outstanding	Outstanding	The associate has been very diligent, hard working and willing to learn beyond the stated project, willing to contribute in areas beyond the stipulated project and has been very useful by her contributions, eg. water balance studies of plants and piezometer study and analysis of the ground water data of various plants in Hindustan Coca-Cola.									1	Coaching/lecture sessions of the students from industry experts would broaden the students perspective of their future in the industrial world.	Hydraulic loading possible on different soils using treated effluent, impact of effluent TDS on the soil quality and cropping pattern	Depends on the requirement.		
5/25/2017 15:44	xxxxxxxxxxxxxx	MTech UDM	Dr.Shyamala Mani	National Institute of Urban Affairs	Swachh Bharat Mission Exposure Workshop	Excellent	Very Good	Very Good	Excellent	Very Good	Good	Above Average	Above Average	Very Good	Excellent	Salman is a hard working and conscientious student and a willing learner and worker. He is polite and well behaved.			1+1	1					1+1	1		Environment al Science basics and Research methodology need to be strengthened at your university	Waste management, Environmental Health, Urban Climate Resilience, Sustainable Development	No
5/26/2017 17:42	xxxxxxxxxxxxxx	SunAlpha Internship Program	Puneet Goyal	SunAlpha Energy	Commercial and technical viability and optimisation of solar rooftop plants and other projects	Outstanding	Excellent	Very Good	Outstanding	Outstanding	Excellent	Excellent	Excellent	Outstanding	Outstanding	Jetushree was an inquisitive, sincere and diligent student. She will be a great asset to the organisation she works for. I saw her time planning skills become better as the internship progressed to adjust to the gradual increase in work load and therefore increase in learning.				1, Renewable energy and solar policies				1, Solar Sector				Private sector interaction should be maximised because the industry and policy are fast changing in technicals and commercials. Students need to be abreast with the latest in technology and finance to be considered for employment.	battery backed, DC systems, Financial EMI, Green Bonds etc	Business development and market research
5/29/2017 12:14	xxxxxxxxxxxxxx	M. Tech. Renewable Energy, Engineering & Management	Aditya Chunekar	Prayas, Energy Group	Long Term Electricity Demand Scenarios for India: Implication of Energy Efficiency	Outstanding	Excellent	Excellent	Outstanding	Good	Very Good	Excellent	Very Good	Outstanding	Outstanding	Ashutosh is a sincere, hardworking and smart student. It was good working with him.				Major				Major			Major		energy policy, energy efficiency, renewable energy,	Not in the near future but will keep you updated. Thanks.

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7/3/2017 19:07	xxxxxxxxxxxxxx	REEM	Abhinav Jain	TERI	Feasibility study of Solar Rooftop System in Government Buildings	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding	.		0	0	0	1	1	0	2	0		0	0	Teaching may be more precise with the present & future requirements of the industry	Electricity, Fuels, Renewable Energy	Yes
8/15/2017 19:12	xxxxxxxxxxxxxx	Degree of Master of Science in Climate Science and Policy	Prof. Pramod K Singh	Institute of Rural Management Anand	Effects of Heat Waves and coping Mechanisms of Communities: A Case Study of Two Districts in Telangana and Andhra Pradesh	Very Good	Excellent	Excellent	Outstanding	Excellent	Outstanding	Outstanding	Outstanding	Excellent	Excellent	Good				1						1		NA	climate change adaptation	.

Coca Cola Department of Regional Water Studies, TERI University

Feedback on design and review of syllabus

We have had a discussion in May, 2016 on the courses with the Alumni. It was discussed that certain courses and the dissertation process needs to be reviewed. The Dissertation for both MSc and MTech was for two semesters in the Department of Regional Water Studies. The course curriculum revision suggestion is that this should be changed to minor project work (project report work of 6 credits) in third semester along with taught courses (electives) and shifting of the Water law course to third semester and project work dissertation (16 credits) in fourth semester. The elective, Industrial Pollution Control should be offered as an elective in third semester instead of second semester so that students can grasp the nuances of the course better as they may use the tools and techniques learnt in first and second semester in third semester for this specialized course. A course on groundwater hydrology and pollution/modelling should be introduced in the third semester as an elective. The changes made in the course structure incorporate the needs of the field to face challenges of water scarcity.

Please express your opinion in this questionnaire format

1. The Water Law course shifted to third semester instead of second semester will help students to have more holistic understanding of laws in the water sector. ☒ Yes/No
2. The Industrial Pollution Control offered in third semester will help students grasp the subject better and they can apply tools and techniques learnt in first two semesters better. ☒ Yes/No
3. The electives Ground Water Hydrology and Pollution for MSc and Ground Water Modelling for M.Tech is offered in the third semester will add value. ☒ Yes/No
4. The first semester course Applied Hydrology will now have a module on Meteorology to incorporate greater understanding of the climate factors which influence hydrology. ☒ Yes/No
5. The course on wetlands offered in second semester in the MSc track will now be Aquatic Ecosystem Management, this will broaden the horizon of the course. ☒ Yes/No
6. The course on Water Audit & Demand Management is unchanged. It does not need change. ☒ Yes/No
7. The course on Gender, Rights & Equity Perspective for Sustainable Management offered in first semester remains unchanged. It does not need change. ☒ Yes/No
8. The course on Water Planning & Management offered in the first semester will now include more aspects of economic planning and development plans. It is improved on the previous course. ☒ Yes/No
9. The new course on Hydraulics and Advanced Hydraulics will be offered in MSc and MTech respectively in the first semester, it allows value addition. ☒ Yes/No

10. The second semester course of Irrigation Water Management has been reviewed and the course contents have been revised to include a design module on drainage. This is value addition on the previous course. Yes/No

11. Field trip of first and second semesters will now carry credits. The view is that experiential learning takes place during field trips, so it is important that these learning are presented and evaluated. Yes/No

12. Geo Informatics for Water Resources will now be offered in first semester to both MSc and M Tech streams as it is an important tool which is applied in water resources. An advanced course will be offered to the M Tech stream in second semester. It is a very positive addition to the course curriculum. Yes/No

13. Integrated Impact Assessment is included in III semester as an elective to give students a holistic learning. Yes/No

14. Climate Change Water Resources & Agriculture is introduced in the III semester as an elective to understand the impact of climate change and agriculture. It adds value to the course. Yes/no

Comments

Name Yash Zeeshan

Signature Yash Zeeshan
15/6/2016

My Comments are as follows.

1. Organizing Guest lecture from Real field experts for every subject in a period of 2 or 3 months. This will help student to know the Ground status without actually moving there in their initial phase of learning.
2. Some subjects like water audit, GIS, Hydro-Modelling needs practical on field experience. So, it would be better if there is field practical. Otherwise, the course structure (revised) seems good and exciting that is opening new dimensions to water sector.

Coca Cola Department of Regional Water Studies, TERI University

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Comments

The revision in the coursework looks good and shall give students more time to absorb the subjects being taught.

My only suggestion would be to increase the credits of minor project in Semester III (if there is scope), otherwise the students might not concentrate on it that much which shall be required.

Name: Niyati Seth

Signature: Niyati Seth

3/06/2016

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Comments

I would like to suggest that Value quality and by biological model based practices project should be given to students for getting free hands on software that is required by value Market

Name

Signature

Damig
Mtech
(L256)

3/1/17