

Centre for Atmospheric Sciences

Date: September 29, 2014

Sub: Request to float undergraduate elective course

In response to your letter dated September 11, 2014 on the alike subject, the Centre for Atmospheric Sciences proposes to offer an additional course (ASD330 – Mini Project) as PE for the B.Tech Minor Area in Atmospheric Sciences. A course template for this new proposed course is attached herewith. All other courses offered earlier, as listed below, remain unchanged.

Programme: B.Tech. Minor Area in Atmospheric Sciences

Core courses:

ASL 310 (3-0-2): Fundamentals of Atmosphere and Ocean

ASL 320 (3-0-2): Climate Change: Impacts, Adaptation and Mitigation

Elective Courses:

ASL 410 (3-0-2): Numerical Simulation of Atmospheric and Oceanic Phenomena

ASL701 (3-0-0): Dynamics of Atmosphere and Ocean

ASL703 (3-0-0): Physics of Atmosphere and Ocean

ASL705 (3-0-0): Boundary Layer Meteorology and Air Pollution

ASL706 (3-0-0): Parameterization of Physical Processes

ASL707 (3-0-0): Mathematical and Statistical Methods in Atmospheric Sciences

ASL710 (3-0-0): Atmospheric Physics

ASL712 (3-0-0): Air-Sea Interaction

ASL715 (3-0-2): Science of Climate Change

ASL718 (3-0-0): Tropical Meteorology

ASL720 (3-0-0): Satellite Meteorology and Remote Sensing

ASL722 (3-0-0): Biological Oceanography

ASL724 (3-0-0): Atmospheric Diffusion and Air Pollution

ASL804 (2-0-2): Air Pollution Monitoring and Health Risk Assessment

ASL808 (3-0-0): Atmospheric Chemistry & Aerosols

ASL819 (2-0-2): High Performance Computing in Atmospheric Sciences

A.D. Rao
(A.D. Rao)

Professor & Head,

Centre for Atmospheric Sciences

To,
Prof. Anurag Sharma
Dean Academics

1.	Department/Centre proposing the course	Centre for Atmospheric Sciences
2.	Course Title (<i>< 45 characters</i>)	Mini Project
3.	L-T-P structure	0 – 0 – 12
4.	Credits	6
5.	Course number	ASD330
6.	Status (<i>Category for program</i>)	PE for B.Tech Minor Area in Atmospheric Sciences

7.	Pre-requisites (<i>course no./title</i>)	ASL310, ASL320
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8.	Overlap of contents with any (<i>give course number/title</i>)	
8.1	Existing UG course(s) of the Department/Centre	nil
8.2	proposed UG course(s) of the Department/Centre	nil
8.3	approved PG course(s) of the Department/Centre	nil
8.4	UG/PG course(s) from other Department/Centres	nil
8.5	Equivalent course(s) from existing UG course(s)	nil

9.	Not allowed for (<i>include program names</i>)	nil
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10.	Frequency of offering	☒ Every sem ☐ 1 st sem ☐ 2 nd sem ☐ Alternate year
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11.	Faculty who will teach the course	Limit of maximum two students in a semester for any faculty of CAS.
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12.	Will the course require any visiting faculty	no
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13.	Course objective (<i>about 50 words</i>): Theoretical, applied and design problems in atmospheric and oceanic sciences will be explored by the student and discussed with the faculty. The problem will be defined and student will carryout relevant literature survey. The student will collect the required data, do the analysis and produce results during entire semester. Progress of student will be evaluated through student seminar and report.
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14.	Course contents (<i>about 100 words</i>) (<i>Include laboratory/design activities</i>): To be given by the interested faculty
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15. Lecture Outline (with topics and number of lectures)

Module No.	Topic	No. of hours
Course Total (14 times 'L')		

16. Brief description of tutorial activities

nil

17. Brief description of laboratory activities

Module No.	Experiment description	No. of hours
1	Data acquisition from numerical modelling experiments and/or observed data from in-situ instruments or satellites.	
2	Analysis of data using programming and visualization tools like NCL, Matlab, CDAT, Ferret, Fortran, GrADS etc.	
Course Total (14 times 'P')		42

18. Suggested texts and reference materials

STYLE: Sonntag, R.E., Borgnakke, C., and Van Wylen, G. J., Fundamentals of Thermodynamics, 5th Ed., John Wiley, 2000.

As suggested by the interested faculty

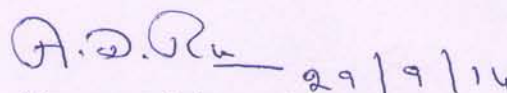
19. Resources required for the course (itemized & student access requirements, if any)

19.1	Software	yes
19.2	Hardware	yes
19.3	Teaching aides (videos, etc.)	yes
19.4	Laboratory	yes
19.5	Equipment	yes
19.6	Classroom infrastructure	nil
19.7	Site visits	nil

20. Design content of the course (Percent of student time with examples, if possible)

20.1	Design-type problems	Depends on the nature of problem
20.2	Open-ended problems	-do-
20.3	Project-type activity	-do-
20.4	Open-ended laboratory work	-do-
20.5	Others (please specify)	

Date:


(Signature of the Head of the Centre)