

Bringing Excellence to Students...



SchEMS
School of Environmental Science and Management

2013 | MSc | BSc | Course Prospectus



Principal's Message

You are heartily welcome to SchEMS to avail a wider scope of learning opportunities. SchEMS is considered to be one of the best schools of the country which is contributing to higher education of the international standards since 1999.

Life at SchEMS is encouraging, stimulating and challenging. We have made the school a centre of excellence and a blend of academic environment to pursue professional courses and professional career, and a humanistic approach to inspire commitment to society. On the other hand, you will find a balanced blend of classroom learning and its application process.

During your study at SchEMS, you will be with a faculty who cares about you to fulfill your ambitions and dreams.

We provide an ideal environment for study and career planning for each student associated with us and prepare them to be competitive to face the modern world.

“During your study at SchEMS, you will be with a faculty who cares about you to fulfill your ambitions and dreams.”

Prof. Dr. Ram B. Khadka
Founder Principal

Board of Directors



Prof. Dr. Ram B. Khadka
Founder Principal
rbkhadka@schems.edu.np



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Mr. Ajay B. Mathema
Associate Professor / Vice Principal
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SchEMS

School of Environmental Science and Management (SchEMS) started its journey with Pokhara University since 1999. SchEMS was established by a team of highly qualified and motivated professionals from multidisciplinary backgrounds, and their goodwill and recognition is not only at national level but also at international level.

SchEMS has been conducting Bachelor of Science and Masters of Science in Environmental Management (from 2000), Bachelor of Business Administration (from 2008), Training and Capacity

Building Service, Course on Integrated Mountain Environment, and Research and Consultancy Services. From this year onwards SchEMS is also planning to conduct Executive Master of Business Administration (EMBA).

The main objective of SchEMS is “to prepare skilled human resources base on integrated environmental management and sustainable development in line with the contemporary need of the country in particular and that of the region in general”. SchEMS has close ties with international universities such as of

People’s Republic of Bangladesh, Canada, The Netherlands, UK, USA and Australia.

SchEMS’s dynamic, cost-effective and practical programs offer state-of-the-art information that is tailored to suit the local conditions. The major opportunities and facilities at SchEMS include participatory and interactive teaching activities, scholarships to deserving students, opportunity to involve in research and consultancy works as interns and opportunities for the study in institutions abroad.

Vision

To become the center of academic excellence

Mission

- Develop and transfer knowledge
 - Prepare highly skilled human resource
 - Promote the academic programs with balanced theory and application
 - Build capacity of the professionals, institutions, and individuals
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Approach

- Undertaking of application-oriented programs
- Bringing in the dynamism into the programs
- Focusing on program that generates solution for and strengthening the society
- Enabling individuals and institutions in optimizing their capacity



Environmental Management

SchEMS is running environmental management course at the undergraduate and graduate levels. As environmental management is a multi-disciplinary subject, this course gives due emphasis to social, cultural, economical and regulatory aspects of the environment. This way a balanced multi-disciplinary fields of knowledge are integrated to provide a comprehensive working knowledge on environmental management. It is based on scientific theories and principles but focused on application aspects of various tools for solving and managing environmental problems. It integrates all major aspects of biophysical as well as socio-economic environments. The highlights of this program are environmental economics, social science, management, mathematics, policies and laws. EIA, GIS and remote sensing, environmental monitoring and modeling are some of the major tools integrated into the program. Extensive field studies, case studies, projects, term papers, seminars and laboratory analysis is carried out to make the program a practical one.



“At SchEMS, you take your 1st step towards becoming an environmentalist, with a dynamic and supportive faculty by your side.”

Sanjay Kurmi | BSc | 2nd Semester



Program Objective

The main objectives of the environmental management program are to:

- Offer courses and research studies covering fundamentals, tools and advanced courses on environmental management;
- Provide an opportunity for carrying out thesis or research using cross-cutting tools and state-of-the-art information;
- Provide opportunity for students to acquire advanced knowledge on the

subject and enhance individual skills and expertise, and

- Contribute to policy research and support the concerned institutions in the country.

Career Opportunities

With the enforcement of environmental protection legislation in Nepal, the government agencies at the central, regional and local levels require trained human resources in environmental management. Good career opportunities also exist in INGOs, NGOs and several other statutory and voluntary organizations. The donor agencies involved in development works also need such human resources.



“ It is based on scientific theories and principles but focused on application aspects of various tools for solving and managing environmental problems. It integrates all major aspects of biophysical as well as socio-economic environments.”

Course Outline (M.Sc.)

M.Sc. in Environmental Management is 60 credit hours, four-semester course to be completed within a period of two years.

Semester I: Fundamental Knowledge Course (17 credit hours)

Semester II: Courses for Environmental Management Tools (17 credit hours)

Semester III: Advanced Courses (14 credit hours)

Semester IV: Thesis (12 credit hours)

First Year


Semester I		17 Credit Hours
ENV	501	Fundamental of Bio-Physical Environment (3)
ECO	502	Environmental Economics (3)
SOC	503	Sociology and Cultural Component (3)
ENV	504	Environmental Policy, Laws and Institutions (3)
ENV	505	Environmental Engineering (3)
ENV	506	Environmental Governance and Diplomacy (2)

Semester II		17 Credit Hours
ENV	507	Environmental Impact Assessment (IEE, EIA, SIA, SEA) (3)
ENV	508	Environmental Management System (LCA, RA, CP, QMS) (3)
ENV	509	Wildlife Management (2)
MGT	510	Strategic Planning Conflict Management Consensus Building (3)
STT	511	Statistics, Quantitative Techniques and Data Management (3)
ENV	512	GIS Application and Remote Sensing (3)

Second Year

Semester III		14 Credit Hours
ENV	601	Urban Environmental Management (3)
ENV	602	Energy, Environment and Economics (3)
ENV	603	Land-use and Watershed Management (2)
ENV	604	Ecosystem Services and Climate Change (3)
RCH	605	Research Methodology and Proposal Writing (3)

Semester IV		12 Credit Hours
ENV	606	Thesis Work (12)



Course Outline (B.Sc.)

The Bachelor Degree in Environmental Management is spanned over a period of eight semesters (four academic years) covering a total of 120 credit hours.

First Year: Fundamental Knowledge Course

Semester I			16 Credit Hours
ENG	101	General English (2)	
MTH	102	Fundamental of Mathematics (3)	
ENV	103	Introductory Biology (3)	
ENV	104	Introductory Chemistry (3)	
ENV	105	Introductory Physics (2)	
ENV	106	Environmental Geology and Soil (3)	

Semester II			15 Credit Hours
ENG	107	Communication and Technical English (3)	
MTH	108	Applied Mathematics (3)	
ENV	109	Environmental Microbiology (3)	
ENV	110	Environmental Chemistry (3)	
ENV	111	Ecology and Environment Science (3)	

Second Year: Basic course for Environment Management

Semester III			15 Credit Hours
SOC	201	Environmental Sociology (3)	
ECO	202	Fundamental Economics (3)	
STT	203	Applied Statistics (3)	
ENV	204	Biodiversity and Biotechnology (3)	
ENV	205	Hydrology and Meteorology (3)	

Semester IV			15 Credit Hours
ENV	206	Environmental Resources and Sustainable Development (3)	
ECO	207	Environmental Economics and Trade (3)	
ENV	208	Environmental Engineering (3)	
MGT	209	Environmental Policy, Laws and Conventions (3)	
MGT	210	Project Management (3)	

Third Year: Environmental Management Tools and Techniques

Semester V			18 Credit Hours
ENV	211	Sustainable Tourism Management (3)	
ENV	212	Environmental Management System (3)	
ENV	213	Environmental Assessment Techniques (3)	
ENV	214	Environmental Monitoring (3)	
ENV	215	Environmental Governance (3)	
ENV	216	Geo-Information Management (3)	

Semester VI			14 Credit Hours
MGT	217	Comprehensive Environmental Planning and Conflict Management (3)	
ENV	218	Disaster and Risk Assessment Techniques (3)	
ENV	219	Urban Development and Environmental Management (3)	
ENV	220	Integrated Watershed Management (3)	
ENV	221	Environmental Technology (2)	

Fourth Year: Specialized Courses, Research and Application in Environmental Management

Semester VII			15 Credit Hours
ENV	301	Aquatic Environmental Management (3)	
ENV	302	Mountain Environment and Sustainable Development (3)	
RCH	303	Research Methodology (3)	
ENV	304	Environmental Health and Sanitation (3)	
ENV	305	Emerging Issues, Seminar and Proposal Writing (3)	

Semester VIII			12 Credit Hours
The activities related to thesis work are carried out in this semester. Mid-term progress evaluation and final examination are held.			
ENV	306	Thesis Work (12)	



“I feel very proud to be a part of SchEMS. It helps me to understand the nature of environment through the modern science. Inspiring teachers and its practical knowledge has always been fruitful to me.”

Nisha Aryal | BSc | 6th Semester

Thesis

In the last semester of MSc/ BSc program, each student must carry out an independent research work and prepare a thesis report on the basis of his/her own original research findings. Thesis is compulsory for all students in order to complete the degree in environmental management. The research involves in-depth investigation on the proposed field or area of study with the application of science research methodology. A thesis advisor, a faculty member, or an expert in the related field from in-house or outside, will be appointed for each student.

The evaluation of thesis will be done, both internally and externally. The evaluation is carried out in three stages:

- Proposal writing, defense and plan of work 20%
- Mid-term progress of the research work 20%
- Final defense and submission of thesis report 60%



“The research involves in-depth investigation on the proposed field or area of study with the application of science research methodology.”

“



“I really enjoyed the course (Environment Management). It was fantastic to be taught by lecturers who are at the forefront of research in respective subjects.”

Sunil Tamang | BSc | 4th Semester

Further Studies

SchEMS has signed “Memorandum of Understanding” with universities and academic institutions of the region as well as abroad in order to avail opportunities to SchEMS students for further studies. Through these agreements a number of SchEMS graduates and undergraduates have joined the reputed universities and institutions.

Some of these are:

- University of Iowa, USA
- University of Chicago, USA
- Yale university, USA
- Middlesex University, UK
- Manchester University, UK
- Wageningen University, the Netherlands
- Faculty of Geo-Information Science and Earth Observation (ITC), Twente University, the Netherlands
- International Center for Integrative Studies, Maastricht University, the Netherlands
- University of Delaware, USA
- Washington University, USA
- Liverpool University, USA
- University of London, UK
- Aberdeen University, UK
- University of Sydney, Australia
- Independent University, Bangladesh

The understanding with above universities and institutions have been established for collaboration in research, further studies, and student exchange.



Student Council of SchEMS (SCOS)

SchEMS encourage students to initiate and actively participate in extra curricular and skill-enhancement activities. SchEMS provide guidance to the students and also supports them with required facilities for their endeavors. In this process, SCOS was formed and is actively conducting different interactive programs, which help the students to achieve objectives of learning.

Facilities

Library/Resource Center

SchEMS houses an extensive resource library with all basic textbooks and reference materials, accessible to all the students for the completion of their courses. Books are made available in proportionate copies. Furthermore, handouts are also provided to the students as per the requirement. Apart from these, journals, newsletters and others relevant periodicals are subscribed by SchEMS to keep students updated.



Logistic Facilities

Printing and photocopy facilities are available to the students so that they can perform more efficiently in case they need reference materials for report preparation and others.



Environmental Monitoring Laboratory

SchEMS activities and researches are supported by and have direct access to the environmental monitoring laboratory, which has comprehensive and sophisticated equipment to carry out lab based analyses. The laboratory is capable of undertaking researches on air, water and soil quality using the most analytical approach. The laboratory also possesses a range of life-based equipment for accurate information, such as pH meter, conductivity meter and stack emission monitors.

IT Room

Well maintained and updated computer laboratory is available for the students. It is open around the day so that students can use it to develop reports, prepare presentations and perform other tasks. Internet facility is made available so that students can update themselves and make quick correspondence with colleagues as well as faculty members for academic interaction and coordination.

“



“SchEMS is where I could boost myself up and come forward.”

Aastha Joshi | BSc | 2nd Semester



Scholarship

International and national institutions are also providing scholarships to the students studying at SchEMS in both Bachelors and Masters programs. SchEMS provides 50 and 25 percent tuition fee waiver to the students ranking respectively first and second in the semester end examination and to diligent students with poor economic status.

“With the enforcement of environmental protection legislation in Nepal, the enforcement agencies at the central, regional and local levels require trained human resources in environmental management.”

“



“SchEMS provided us an ideal environment of study and career planning. I’m glad that I’ve chosen a best one.”

Padam Raj Joshi | MSc | 2nd Semester

Fee Structure 2013 (M.Sc.)

First Year

Semester I		
Particulars	Installment 1	Installment 2
Admission Fee & Deposit	14000	-
Tuition Fee	19500	19500
Semester Fee	20500	-
University Fee (A.R.E)	6000	2000
Total	60000	21500

Semester II		
Particulars	Installment 1	Installment 2
Tuition Fee	19500	19500
Semester Fee	14500	-
University Fee (E)	-	2000
Total	34000	21500

Second Year

Semester III		
Particulars	Installment 1	Installment 2
Tuition Fee	19500	19500
Semester Fee	20500	-
University Fee (A.R.E)	4000	2000
Total	44000	21500

Semester IV		
Particulars	Installment 1	Installment 2
Tuition Fee	19500	19500
Semester Fee	14500	-
University Fee (E)	-	2000
Total	34000	21500

Grand Total (including university charges): 258000/-

Note:

- Deposit is refunded only on successful completion of program.
- Field works will be organized as per the requirement of the course. Additional cost of field will be charged in the installment invoice respectively.
- Semester fees comprises: computer and internet services, internal examinations, Co-curricular activities, first aid and so on.

Fee Structure 2013 (B.Sc.)

First Year

Semester I		
Particulars	Installment 1	Installment 2
Admission Fee & Deposit	14000	-
Tuition Fee	15500	15500
Semester Fee	16500	-
University Fee (A.R.E)	6000	1500
Total	52000	17000

Semester II		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	12500	-
University Fee (E)	-	1500
Total	28000	17000

Second Year

Semester III		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	17000	-
University Fee (A.R.E)	3000	1500
Total	35500	17000

Semester IV		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	12500	-
University Fee (E)	-	1500
Total	28000	17000



Third Year

Semester V		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	17000	-
University Fee (A.R.E)	3000	1500
Total	35500	17000

Semester VI		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	12500	-
University Fee (E)	-	1500
Total	28000	17000

Fourth Year

Semester VII		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	17000	-
University Fee (A.R.E)	3000	1500
Total	35500	17000

Semester VIII		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	12500	-
University Fee (E)	-	1500
Total	28000	17000

Grand Total (Including University Charges): 406500/-

Note:

- Deposit is refunded only on successful completion of program.
- Field works will be organized as per the requirement of the course. Additional cost of field will be charged in the installment invoice respectively.
- Semester fees comprises: computer and internet services, internal examinations, Co-curricular activities, first aid and so on.



Application Procedure

Eligibility (M.Sc.)

The prospective individual with a Bachelor degree in science, forestry, agriculture engineering and other related technical subjects or equivalent from recognized institutions are eligible to enter into the MSc degree course in environmental management. Besides fulfilling the basic academic requirements, candidates should appear in an entrance examination to qualify for the M.Sc. Program.

Eligibility (B.Sc.)

The prospective individuals with an Intermediate of Science or +2 in science, forestry, agriculture and other related technical subjects or equivalent from recognized institutions are eligible to enter into the BSc degree course in environmental management. Besides fulfilling the basic academic requirements, candidates should appear in an entrance examination to qualify for the B.Sc. program.

A complete application form

- Certified copy of academic transcript of school level
- Certified copy of academic transcript of intermediate level
- Certified copy of academic transcript of bachelor level (for MSc application)
- Character certificate(s)
- Letter of recommendations from the institutions
- Original migration certificate (can be submitted during or after admission)
- A copy of citizenship certificate

Faculties

Prof.Dr. Ram Bahadur Khadka

PhD- Ecology,EIA,
Environmnetal Management
Aberdeen University and Delhi University

Mr. Shailendra Guragain

EMBA-Project Management &
Organizational Development
Pokhara University

Mr. Ajay B. Mathema

M Sc/ME, GIS, Remote Sensing,
Environmental Engineering,
Twente University, ITC, the Netherlands

Prof. Dr. Tej Kumar Shrestha

DSc/PhD-Wildlife Ecology
Tribhuwan University

Dr. Chakra Bahadur Khadka

PhD-Economics
Tribhuwan University

Prof. Dr. Rhiddi Bir Singh

PhD-Energy and Environment
Indian Institute of Technology, Delhi

Prof. Dr. Khadga B. Thapa

PhD-Hydrology
University of Roorkee, India

Dr. Suman K. Shakya

PhD-Applied Natural Science,
Natural Resources Vienna
University, Austria

Dr. Shambhu P. Kattel

PhD-Anthropology
Tribhuwan University

Dr. Uttam Kunwar

PhD-Environmnetal Chemistry
Strathclyde Scotland, UK

Er. G.P. Gorkhaly

MSc-Infrastructure Planning
Stuttgart University, Germany

Er. Bhai Raja Manandhar

ME-Environmnetal Engineering
Asian Institute of Technology, Bangkok

Mr. Uttam Sagar Shrestha

MA-Geography, Demography
Tribhuwan University

Er. Prabin Shrestha

MSc-Infrastructure Planning,
University of Stuttgart, Germany
MSc-Urban Management Planning and
Finance, Institute of Housing and Urban
Development, the Netherlands

Er. Ashok Tuladhar

MSc- Structural Engineering,
Solid Waste Technology
Technical University of Aachen (RWTH)
West Germany

Mr. Deepak Raj Parajuli

MSc. Environment
Kathmandu University

Mr. Hari Gopal Shrestha

MSc-Chemistry
Tribhuwan University

Mr. Ram R. Bhandari

MPhil-Educational Leadership
MSc Environmnetal Science and
Management, Pokhara University

Mr. Prakash Amatya

MSc-Environmnetal Techonology
(Rainwater Harvesting)
Tribhuwan University

Mr. Tirtha Niraula

MSc-Physics
Tribhuwan University

Mr. Ram D. Yadav

MSc-Soil Information System
Twente University,ITC,the Netherlands

Mr. Nawaraj Subedi

MSc-Geo-information Management and
Land Administration
Twente University,ITC,the Netherlands

Mr. Sushil M. S. Pradhan

MSc-Environmnetal Microbiology
Tribhuwan University

Mr. Surendra Lal Shrestha
MA-Economics
Tribhuwan University

Mr. Jeevan Poudel
MA-Anthropology
Tribhuwan University

Mr. Madhukar Upadhya
MSc-Watershed Science
Tribhuwan University

Mr. Babu Ram Shrestha
MSc-Regional Planning, Germany
Asian Institute of Technology, Bangkok

Mr. Sunil Raj Poudel
MSc-Environmental Geology
Tribhuwan University

Mrs. Mani Gorkhali
MA-Mathematics
Tribhuwan University

Mr. Laxman Mainali
MSc-Environmental Law
University of Sydney, Australia

Mr. Jeevnath Lamshal
MA-English
Tribhuwan University

Mr. Hari Dutta Joshi
MSc-Environment Science and Health
Tribhuwan University

Mr. Devi Chandra Pokharel
MSc-Forestry
Asian Institute of Technology, Bangkok

Mr. Rajiv Ghimire
MSc- Environment Science
Tribhuwan University

Ms. Gauri Shrestha
MSc- Statistics
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Tribhuwan University

Mr. Tika Ram Poudel
MSc-Geology
Tribhuwan University

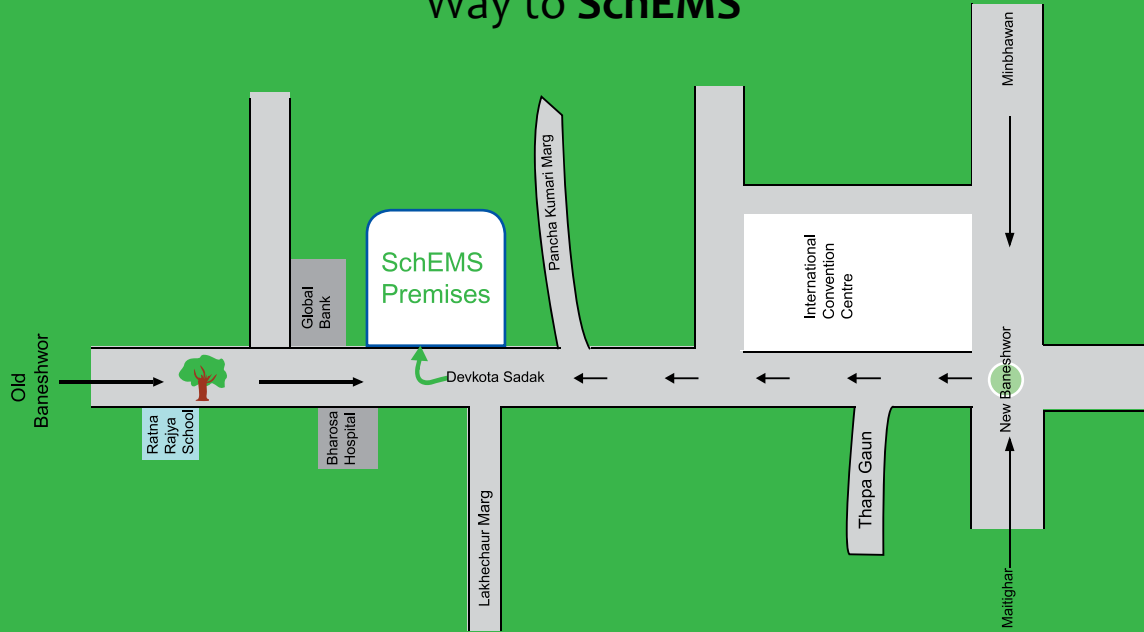
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Kiel University, Germany

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Pokhara University,
MSc- Environmental Science,
Wageningen University,
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Mr. Ajit Shrivastav
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Way to SchEMS



SchEMS
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