

॥ सा विद्या या विमुक्तये ॥



स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

“ज्ञानतीर्थ” परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED

“Dnyanteerth”, Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)

Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade



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MOOC Courses चा आराखडा
शैक्षणिक वर्ष २०१९-२० पासून
लागू करण्याबाबत.

परिपत्रक

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, दिनांक ८ जून २०१९ रोजी संपन्न झालेल्या ४४व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.१६/४४-२०१९ च्या ठरावानुसार सोबत जोडल्याप्रमाणे **MOOC Courses** चा आराखडा शैक्षणिक वर्ष २०१९-२० पासून लागू करण्यात येत आहे.

सदर **MOOC Courses** हे सर्व संकुले व उपपरिसरासाठी तसेच संलग्नित महाविद्यालयांसाठी देखील लागू राहतील.

सदरील परिपत्रक व **MOOC Courses** चा आराखडा प्रस्तुत विद्यापीठाच्या www.srtmun.ac.in या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

‘ज्ञानतीर्थ’ परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.

जा.क्र.: शैक्षणिक-१/परिपत्रक/MOOC Courses Details/
२०१९-२०/१३६२

दिनांक : १६.०९.२०१९.



स्वाक्षरित/—
उपकुलसचिव

शैक्षणिक (१-अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :

- १) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
- २) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
- ३) मा. अधिष्ठाता, सर्व विद्याशाखा, प्रस्तुत विद्यापीठ.
- ४) मा. संचालक, सर्व संकुले, विद्यापीठ परिसर, प्रस्तुत विद्यापीठ.
- ५) मा. संचालक, स्वा.रा.ती.म. विद्यापीठ, नांदेड, उप-केंद्र, औसा रोड, पेठ, लातूर – ४१३ ५३१.
- ६) मा. प्राचार्य, स्वा.रा.ती.म. विद्यापीठ, नांदेड द्वारा संचलित न्यू मॉडेल डिग्री कॉलेज, हिंगोली-४३१ ५१३.
- ७) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
- ८) उपकुलसचिव, शैक्षणिक (३-संलग्नीकरण) विभाग, प्रस्तुत विद्यापीठ.
- ९) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
- १०) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
- ११) सीनिअर प्रोग्रामर, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

Massive Open Online Courses (MOOCs) details

MOOC code	Name of the MOOC	Name of the teacher who designed the MOOC
MOOC1	Introduction to LaTeX Typesetting	Dr. Rupali S. Jain
MOOC2	Statistical Analysis with R Software	Dr. Ganesh S. Phad
MOOC3	Introduction to Speaking French	Dr. Nina Gogate
MOOC4	Probability distributions and their applications	Dr. B. Surendranath Reddy
MOOC5	Research Methodology for Beginners	Dr. Mahesh M. Joshi
MOOC6	Computer Programming For Basic Sciences	Dr. G. Krishna Chaitanya
MOOC7	Financial Management	Dr. Gajanan Mudholkar
MOOC8	Health and Wellness a Key to Success	Dr. Surendra G. Gattani and Dr. Ajay D. Kshirsagar
MOOC9	Introduction to elemental analysis	Dr. Rahul V. Pinjari
MOOC10	Green Social Work	Dr. Sarode Usha

Massive Open Online Courses (MOOCs)

Name of the Course: Introduction to LaTeX Typesetting

Name of the Teacher: Dr. Rupali S. Jain

Outline of the Course: LaTeX is a high-quality typesetting system; it includes features designed for the production of technical and scientific documentation. LaTeX allows you to focus on writing your document without spending hours for formatting. LaTeX is very useful for research students to write their thesis in beautiful and efficient way. Using the beamer class in LaTeX, we can create the best presentations compared to MS-word or Libreoffice.

Objective of the Course:

- 1) To prepare research papers, project work, thesis writing in LaTeX
- 2) To prepare presentations using Latex Beamer.

Outcome of the Course:

- Students can type any type of document using LaTeX
- Students can prepare beamer presentations for their talks.

Prerequisite: Any graduate with basic computer knowledge

Syllabus:

Module 1. LaTeX Typesetting :

Introduction to LaTeX, installation, layout design, document classes, packages, environments, page styles, tables, Graphics. Typesetting mathematical formulae: equations, matrices, fractions, integrals, sums, products, etc.

Module 2. Writing and Presentation using LaTeX

Document classes for paper writing, thesis, books, etc. Table of contents, index, bibliography management, hypertext, pdfpages, geometry, fancy header and footer, Verbatim, itemize, enumerate, boxes, equation number. Beamer class, beamer theme, frames, slides, pause, overlay, transparent, handouts and presentation mode.

References:

- 1) The LaTeX companion, Frank Mittlebach and Michel Goossens, Addison-wesely, Pearson Education.
- 2) Learning Latex by doing, Andre Heck, AMSTEL Institute.
- 3) <https://www.latex-project.org/>

Types of Course Material:

- 1) **e-tutorial:** audio and video
- 2) **e-content:** PPT, PDF document, E-books
- 3) **Self-Assessment:** MCQ problems, Assignments, discussion forum topics,

Credits:

Course code	Title of Paper	Number of Credits	Contact hour	Continuous Evaluation Marks (1 credit)	External Evaluation Marks (1 credit)	Total
MOOC1	Typesetting with LaTeX	2	30 hours	25	25	50

Massive Open Online Courses (MOOCs)

Name of the Course: Statistical Analysis with R Software

Name of the Teacher: Dr. Ganesh S. Phad

Outline of the Course: **R** is a statistical programming language and software. It is free and open source software, capable of handling mathematical and statistical manipulations. It has its own programming language as well as built in functions to perform any specialized task. R software is the best alternative for proprietary software like SPSS, SAS, MINITAB, SYSTAT etc. In this course we intend to learn data handling with **R**, performing statistical tests in **R** and the interpretation of the output.

Objective of the Course:

1. To learn different data handling techniques in **R**.
2. To plot and visualize the data using commands in **R**.
3. To identify and apply the suitable statistical test for the data in **R**.

- To summarize and interpret the output.

Outcome of the Course:

After completion of the course students can able to:

- Download and install the **R** Software.
- Handle and plot data in **R**.
- Apply suitable statistical test for the given data in **R**.
- Interpret the output and draw the conclusions.

Prerequisite: Any graduate with basic computer knowledge

Syllabus:

Module 1. Introduction to R :

Getting R and installation, package installation, Rstudio, environments, import data, data frames, import of external data in various file formats, data editing, use of R as a calculator, functions, visualizing data using graphical methods, etc.

Module 2. Statistical Analysis:

Descriptive statistics, normality test, one sample t-test, independent sample t-test, paired t-test, ANOVA, non-parametric tests for non-normality of data, correlations, linear regression, Chi-square test for independent of attributes, etc.

References:

- Beginning **R** the statistical programming language, *Mark Gardener*, Wiley India Pvt. Ltd.
- <https://www.r-project.org/>

Types of Course Material:

- e-tutorial:** audio and video
- e-content:** PPT, PDF document, E-books
- Self-Assessment:** MCQ problems, Assignments, discussion forum topics,

Credits:

Course code	Title of Paper	Number of Credits	Contact hour	Continuous Evaluation Marks (1 credit)	External Evaluation Marks (1 credit)	Total
MOOC2	Statistical Analysis with R Software	2	30 hours	25	25	50

Massive Open Online Courses (MOOCs)

Name of the Course: Introduction to Speaking French

Name of the Teacher: Dr. Nina Gogate

Outline of the Course: French is a language used all over the world for commerce, diplomacy, education and research. It is one of the languages associated with philosophy, culture and literature. Therefore, knowledge of French will allow students to participate academically and professionally at an international level. This course will introduce students to the phonology of French and help them gain basic skills in oral comprehension and expression of French language. This course can be an introduction to the French language for beginners or serve as a supporting course for students of A1 level/Certificate Course/ Open electives of French language.

Objective of the Course:

To gain basic skills in oral comprehension and expression of French language.

Outcome of the Course:

Students can understand and express basic phrases/sentences in French correctly.

Prerequisite:

Beginner or student or A1 level/Certificate Course/ Open electives in French language.

Syllabus:

Module 1: Phonology (15 lessons of 1 hour each)

Alphabets and Phonology of French, with special attention to l'ellipse, l'ellision, les accents and other particular aspects of French phonological system.

Module 2: Basic Oral Communication in French (15 lessons of 1 hour each)

Presenting oneself-Asking and giving personal and professional information- Day to day communication and exchange of information -Using correct language registers- Describing persons, things and places- Giving opinions-Asking/giving directions/locations.

References:

1. The CERFL – Common European Framework of Reference for Languages.
2. <http://www.ciep.fr/en>

Types of Course Material:

1. **E-tutorial:** video, audio, illustration and print
2. **E-content:** PPT, PDF document, E-books, Open Source exercises from internationally recognized websites participating in French teaching and learning.
3. **Self-Assessment:** MCQ problems, Assignments

Credits:

Course code	Title of Paper	Number of Credits	Contact hour	Continuous Evaluation Marks (1 credit)	External Evaluation Marks (1 credit)	Total
MOOC3	Introduction to Speaking French	2	30 hours	25	25	50

Massive Open Online Courses (MOOCs)

Name of the Course: Probability distributions and their applications

Name of the Teacher: Dr. B. Surendranath Reddy

Outline of the Course: This course has been designed not only for Mathematics and Statistics students but also for students of Physics, Biology, Medical Science, Social Science, etc. Each concept has been explained through many examples and some problems of NET/SET/GATE were discussed in detail so that whoever preparing for competitive exam, it will be more beneficial.

Objective of the Course:

- 3) Probability is the fundamental concept for any statistical course. So we make strong foundation of probability through this course.
- 4) To discuss application oriented problems along with the concepts
- 5) To provide the necessary background in probability to face any competitive exam.

Outcome of the Course:

- Students will improve their reasoning on probability questions
- One can fit the distribution for a real life phenomena
- Students will solve the problems related to probability in any exam or interview.

Prerequisite: Any graduate with basic Statistics and Mathematics knowledge.

Syllabus:

Modules 1: Distribution function of a Random Variable

Sample Space and Events, Axioms of Probability, Sample Spaces Having Equally Likely Outcomes, Conditional Probability, Bayes Formula, Independent Events. Distribution Function, Random variable, types of random variables and expectation

Module 2 : Special Probability Distributions

Discrete uniform, Bernoulli, Binomial, geometric, negative binomial, hyper geometric, Poisson distribution, degenerate random variable, Continuous uniform, Exponential, Gamma, Beta, Normal, Cauchy distribution.

References:

1. Sheldon Ross, A First Course in Probability, PRENTICE HALL India.
2. VIJAY K. ROHATGI, A. K. MD. EHSANES SALEH, An Introduction to Probability and Statistics, second edition, Wiley series.
3. Feller, W., Introduction to Probability Theory and its Applications, 3rd Ed., Wiley Eastern, 1978.

Types of Course Material:

1. **e-tutorial:** audio and video
2. **e-content:** PPT, PDF document, E-books
3. **Self-Assessment:** MCQ problems, Assignments, discussion forum topics,

Credits:

Course code	Title of Paper	Number of Credits	Contact hour	Continuous Evaluation Marks (1 credit)	External Evaluation Marks (1 credit)	Total Marks (2 credit)
MOOC4	Probability distributions and their applications	2	30 hours	25	25	50

Massive Open Online Courses (MOOCs)

Name of the Course: Research Methodology for Beginners

Name of the Teacher: Dr. Mahesh M. Joshi

Outline of the Course:

Every research practitioner begins with no clear ideas of research, how to identify a researchable problem, how to collect the data, how to select sample, how to write the proposal?

There are many WHATs? WHYs? HOWs? before the beginners. The appropriate answers to these questions needs the knowledge of research methodology. The present course is designed to help such beginner who is seeking answers for questions mentioned here.

The course will help the students of different disciplines to comprehend some basic concepts of research and its methodologies, identification of problems, variables and components related to problem, preparing a research proposal, organize and conduct research understanding research literature and presenting research.

Objective of the Course:

- 6) To enable student to understand and work with methods and concepts related to research
- 7) To enable the student to develop research proposal and to work with research problem
- 8) To develop broad comprehension of research area.

Outcome of the Course:

- Students can understand research literature, reports and write reviews.
- Students can prepare identify research problem for their own work and develop research proposal
- Students can write report of research

Prerequisite: Any graduate with basic knowledge of own area of study

Syllabus:

Modules 1: RESEARCH: CONCEPT AND METHODS

Research- meaning, purpose, characteristics and types of research

Review of research literature

Methods of Research : Historical, Case study, Ethnography, Ex post facto, documentary and content analysis, survey and experimental studies etc and their implications in research area

MODULE 2: DATA ANALYSIS, PRESENTATION AND REPORT WRITING

Sampling and types of sampling, Tools of data collection, Analysis of data and statistical tools of data analysis, Writing of research proposal, Writing and presentation of preliminary, main body and reference section of report ,Evaluation of research report

REFERENCES:

1. Best, J. W. and Kahn J. V. (2005) Research Introduction, New Delhi, PHI.
2. Bhattacharya, D. K. (2004) Research Methodology, New Delhi, Excel Books
3. Brymann, Alan and Carmer, D. (1994) Qualitative Data Analysis for Social Scientist, New York, Routledge Publications.
4. Creswell J. W. (1994) Qualitative Approach, New Delhi, Sage Publication.
5. Gautam, N. C. (2004) Development of Research Tools, New Delhi Shree Publishers.
6. Gupta, Santosh (2005) Research Methodology and Statistical Techniques, Deep and Deep Publications.
7. Kothari, C. R. (2005) Quantitative Techniques, New Delhi, Vikash publishing house
8. Shukla J.J. (1999) Theories of Knowledge, Ahemadabad Karnavati Publication.

Types of Course Material:

1. **e-tutorial:** audio and video
2. **e-content:** PPT, PDF document, E-books
3. **Self-Assessment:** MCQ problems, Assignments, discussion forum topics,

Credits:

Course code	Title of Paper	Number of Credits	Contact hour	Continuous Evaluation Marks (1 credit)	External Evaluation Marks (1 credit)	Total
MOOC5	Research Methodology for Beginners	2	30 hours	25	25	50

Massive Open Online Courses (MOOCs)

Name of the Course: Computer Programming For Basic Sciences

Name of the Teacher: Dr. G. Krishna Chaitanya

Outline of the Course: Now a days, computer programming has important role in modern research area, particularly in basic sciences. It helps to solve the complicated mathematical equations in accurate and faster way.

Objective of the Course:

- 9) To introduce basic computer programming through C language
- 10) To have hands on sessions for writing computer programs for familiar equations in science discipline.
- 11) Have assignments through FORTRAN language.

Outcome of the Course:

- Students will have exposure to basic computer programming.
- Students will develop computer programming skills for their research problems.
- Students are expected to apply their programming skills for FORTRAN language too.

Prerequisite: Any graduate with basic computer knowledge .

Syllabus:

Module 1. Introduction to Programming in C:

1. Introduction: History of C language, Key words, Data types and operator, Variables and constants I/O statements in C.
2. Control structures: if, if –else, nested if, switch, Looping statements (while, do –while, for) break and continue statements, goto statement.
3. Array and strings : Introduction to Array one dimensional and multi-dimensional array, string, string manipulation functions (strlen, strcpy, strcmp).
4. Functions: standard (Library) function, user defined functions
5. Structure and union: Introduction to structure, Array of structure, structure within structure, introduction to union

Module 2. Programing in C

Development of small computer codes involving simple formula, such as van der Waals equation, pH titration, kinetics, radioactive decay. Evaluation of lattice energy and ionic radii from experimental data. Linear simultaneous equations to solve secular equations within the

Hückel theory. Elementary structural features such as bond lengths, bond angles, dihedral angles etc., of molecules extracted from online database, execution of linear regression, X-Y plot, numerical integration and differentiation as well as differential equation solution programs. Programs with data preferably from their respective laboratory etc.

References:

- 1) *Let Us C*: Yeshwant Kanitkar
- 2) *C Programming Language* by Brian W. Kernighan and Dennis M. Ritchie
- 3) *Numerical Recipes in FORTRAN/C* by W. H. Press , S. A. Teukolsky, W. T. Vetterling and B. P. Flannery, Cambridge University Press, 2nd Ed. 1996.

Types of Course Material:

1. **e-tutorial:** audio and video
2. **e-content:** PPT, PDF document, E-books
3. **Self-Assessment:** MCQ problems, Assignments, discussion forum topics,

Credits:

Course code	Title of Paper	Number of Credits	Contact hour	Continuous Evaluation Marks (1 credit)	External Evaluation Marks (1 credit)	Total
MOOC6	Computer Programming For Basic Sciences	2	30 hours	25	25	50

Massive Open Online Courses (MOOCs)

Name of the Course: Financial Management

Name of the Teacher: Dr. Gajanan Mudholkar

Outline of the Course: The finance is the life blood of any business. The finance is required to meet the needs of money in the business. The finance is the art and science of managing funds or money. The management of money is an essential part of everyone’s life. The financial management is the application of financial decision making with the help of different finance functions. The financial management deals with effective use of sources and applications of funds as and when needed. The profit maximization and wealth maximizations are two major objectives of financial management. The financial decision making can be effectively done and profit earnings can be maximized using financial

management. It deals with financial statement analysis, sources of financing, capitalization, capital structure, working capital management, leverage, cost of capital and other financial concepts.

Objective of the Course:

1. To assist to the financial manager for financial decision making
2. To design financial plans for business and personal financial planning.

Outcome of the Course:

- Learners can take their financial decisions based on this course.
- Students can design financial plans for business and personal financial planning.

Prerequisite: Any graduate or post graduate student.

Syllabus:

Module 1. Financial Management Concepts:

Introduction to terms of finance, business finance and financial management, objectives of financial management, Scope of financial management, functions of finance manager, basic financial management concepts, Importance of financial management, financial planning, financial decisions, sources and applications of funds, techniques of financial statement analysis etc.

Module 2. Financial Management Decisions based on Numerical

Financial statement analysis, Capitalization and cost of capital determination, capital structure and capital budgeting techniques: Pay Back Period, Net Present Value, Profitability Index, Internal Rate of Return; Working Capital Management and Working capital estimation, Leverage: Operating leverage, financial leverage and combined leverage.

References:

1. Financial Management : Khan and Jain
2. Financial Management: Dr. N.M. Vechlekar
3. Financial Management: C. Paramasivan, T. Subramanian
4. Financial Management: P.V. Kulkarni and B.G. Satyaprasad
5. Financial Management: G. Sundarsana Reddy
6. Financial Management: R. P. Rastogi

Types of Course Material:

1. **e-tutorial:** audio and video
2. **e-content:** PPT, PDF document, E-books
3. **Self-Assessment:** MCQ problems, Assignments, discussion forum topics,

Credits:

Course code	Title of Paper	Number of Credits	Contact hour	Continuous Evaluation Marks (1 credit)	External Evaluation Marks (1 credit)	Total
MOOC7	Financial Management	2	30 hours	25	25	50

Massive Open Online Courses (MOOCs)

Name of the Course: Health and Wellness a Key to Success

Name of the Teacher: Dr. Surendra G. Gattani, Dr. Ajay D. Kshirsagar

School of Pharmacy, S.R .T.M.University, Nanded

Outline of the Course: This course contains the overall development of student in competitive world. This course redefines the day to day habit by support, consistency and accountability which are the three of the most important ingredients to achieving the most productive state of mind. It inculcates the holistic educational values that won't find in mainstream of curriculum. It gives correlation of between mind, body and spirit. Lifestyle that keeps diseases away and give increased productivity by means of exercise, yoga, meditation, vipshyanya etc. It will introduce importance of food and nutraceuticals for maintaining overall physical, mental and spiritual health and wellbeing. Student will understand the very core basics of human relation in society, its impact on selection and achieving success in the field of interest.

Objective of the Course:

1. To prepare student for lifelong practices that will maintain overall development of student to meet global challenges.
2. To prepare and practices of habits in diversified challenges for high performance yielding positive personality that lead the next generation.

Outcome of the Course:

- Students can find easy ways of practicing healthy habits that boost the wellbeing.
- Students can practice, self-educate and add value to community about healthy life styles that keeps diseases away for healthy.

Prerequisite: Any specialization students will adapt as a credit course

Syllabus:

Module 1. Personal Development

Introduction to co-ordination between body, mind and spirit for exponential growth in life, art of meditation, cultures cape, conscious engineering, Lifestyle, Lifestyle and health, blissipline, biohacking.

Module 2. Lifestyle and Successful Career

Food as Medicine: Lifestyle disease and food, nutraceuticals, nutrient and micronutrient, food and diet. Healthy Relationship: Understanding dimensions of relationships, ultimate state of human existence, Successful Career: Meaning of success, How to choose a right career, How to create vision of life, what is happiness , fulfillment, how to add value to life, leveraging life, completely successful life with meaning.

References:

1. The code of extraordinary mind, by Vishen Lakhiani, Rodale Publication house, ISBN-13: 978-1-62336-708-4.
2. Lifestyle diseases, Dr. Surendra G Gattani, Dr. Ajay D Kshirsagar, Nirali Prakashan,, ISBN:978-93-86353-37-5
3. <https://www.mindvally.com>

Types of Course Material:

1. **e-tutorial:** audio and video
2. **e-content:** PPT, PDF document, E-books
3. **Self-Assessment:** MCQ problems, Assignments, discussion forum topics,

Credits:

Course code	Title of Paper	Number of Credits	Contact hour	Continuous Evaluation Marks (1 credit)	External Evaluation Marks (1 credit)	Total
MOOC8	Health and wellness Key to Success	2	30 hours	25	25	50

Massive Open Online Courses (MOOCs)

Name of the Course: Introduction to elemental analysis

Name of the Teacher: Dr. Rahul V. Pinjari

Outline of the Course: The analysis of the elemental composition of the samples (e.g., bodily fluids, pharmaceutical and food products, soil, waste or drinking water, minerals, chemical compounds) is crucial in view of the harmfulness or usefulness of particular element in sample. In elemental analysis a sample of some material is analysed to know its elemental composition (qualitative analysis) and the concentration of element present (quantitative analysis).

Objective of the Course:

1. To know techniques and their principle for elemental analysis
2. To understand elemental composition of samples
3. To quantify the specific elements from sample.

Outcome of the Course:

- Students can understand the various techniques for elemental analysis
- Students can decide the choice of technique for samples
- They can estimate the composition of samples and concentration of certain element in it.

Prerequisite: Any graduate with chemistry.

Syllabus:

Module 1. Introduction and qualitative analysis

Introduction to elemental analysis, introduction to the analytical techniques for qualitative element analysis viz., X-Ray Fluorescence Analysis (XRFA), Neutron Activation Analysis (NAA), Mass Spectrometry (MS), Atomic Absorption Spectrometry (AAS), Atomic Emission Spectrometry (AES), example of the elemental analysis of material, soil and waste water samples.

Module 2. Quantitative analysis

Introduction to quantitative analysis, its significance, quantitation of metals using spectrophotometry, AAS, AES, MS in biological, pharmaceutical, food, soil, fertilizers and water samples, pros and cons of analytical methods.

References:

1. Skoog D.A., West D.M., James Holler M., and Crouch S.R.; Fundamentals of analytical chemistry, 9th ed., 2013.
2. Harvey, D.; Analytical Chemistry 2.1, DePauw University, 2016.
3. Broekaert J. A.; Analytical Atomic Spectrometry with Plasmas and Flames. Wiley-VCH, Weinheim, 1st edition, 2001
4. Evans E. H.; Fisher A.; An Introduction to Analytical Atomic Spectrometry. Jon Wiley and Sons Ltd, 2nd edition, 2002
5. Welz B.; Sperling M.; Atomic Absorption Spectroscopy. Wiley-VCH, 3rd edition, 1998
6. Montaser A.; Inductively Coupled Plasma Mass Spectrometry, Wiley-VCH, 1998

Types of Course Material:

1. **e-tutorial:** audio and video
2. **e-content:** PPT, PDF document, E-books
3. **Self-Assessment:** MCQ problems, Assignments, discussion forum topics,

Credits:

Course code	Title of Paper	Number of Credits	Contact hours	Continuous Evaluation Marks (1 credit)	External Evaluation Marks (1 credit)	Total
MOOC9	Introduction to elemental analysis	2	30	25	25	50

Massive Open Online Courses (MOOCs)

Name of the Course: Green Social Work

Name of the Teacher: Sarode Usha

Outline of the Course: Green Social Work is a branch of social work that deals with the impact of the faltering environmental stability upon human population, and how the developmental issues affect people, impoverished group in particular. Need of Green Social Work attempts to improve social conditions may be lost if society itself lacks clear Air, Potable drinking water

and food. Till today our ideas was based upon a ***“Person –in –Environment” principle and it had long neglected the “Environment-in – Person” principle aspect.*** Rethinking Green Social Work interpretation of Environmental Justice: from Local to Global. It is job of Green Social Worker to shed light on contemporary environmental problems and support the people caught in its crosshair.

Objective of the Course:

1. To develop the ability to think critically and articulate the developmental issues, problems and debates encountered in social work practice. To further the skills of the students in dealing with people and their problems.
2. To understand the integration of social work with ecology and environment, to strengthen the ability of the students to integrate theory with practice.
3. To study Social movements and the associations related to environment.

Outcome of the Course:

- To inculcate values, ethics, skills and techniques required by a professional social workers for working with different settings and learn from Indigenous and Spiritual Culture.
- To strengthen the ability to work with integrated multilevel approaches for meeting the human needs. By Creatively apply skills to Environmental component
- Openesness to different values and ways of being or doing.

Prerequisite: Any graduate from any faculty can opt for this course.

Syllabus:

Module 1. - Concept of natural resources, History of man and environment, Indian thought & environmental traditions. Developmental Processes Industrialization, Urbanization & Globalization and their impact on environment, dams & its consequences, Deforestation & ecological imbalance.

Module 2. Ecological Movements- Bhodan movement, Chipko Movement, save forest movement, Miatti bachao Andolan, save Ganga movement, women’s ecological movement, movement against big dams –Narmada &

Tehri. Role of environmental activists Vandana shiva, Medha Patkar & Arundhati Roy.

References:

1. Gadgil Madhav, Ecology, Penguin Books, New Delhi.
2. Gadgil, Madhav and Ramchandra Guha, This fissured Land: An ecological History of India, Delhi, OUP, 1994.
3. Gadgil, Madhav and Ramchandra Guha, Ecology and Equity; the use and Abuse of Nature in Contemporary India, Penguin, Delhi, 1995.
4. Goldsmith, E. And Hildyard, N. (ed.) the Social and Environmental Effects of Large Dams; Vol. I-III (Overview, Case studies and Bibliography), Wadebridge Ecological Centre U.K.
5. Guha Ramchandra, The Unquiet woods, Ecological Change and Peasant Resistance in the Himalayas, Delhi: OUP, 1991.
6. Kothari, Ashish, Meera, People and Protected Areas;
7. Krishna, Sumi, Environmental Politics; Peoples lives and Developmental Choices, Delhi, Sage, 1996. 9. Mishra Anupam, Aaj bhi Khare hain Talab (in Hindi), Gandhi Peace foundation, New Delhi.
8. Mrs Maria and Shiva Vandana, eco-feminism, Delhi, 1993. 59
9. Owen, D.F., What is Ecology, Oxford University Press Oxford, 1980. 12. Paranjape Vijay, Samaj Parvartana Samudaya Dharwad, Save Nilgiris Campaign, Ooty, Econet, Pune, 1996.

Types of Course Material:

- 4) **e-tutorial:** audio and video
- 5) **e-content:** Group discussion and Case Studies
- 6) **Self-Assessment:** MCQ problems, Assignments, discussion forum topics,

Credits:

Course code	Title of Paper	Number of Credits	Contact hour	Continuous Evaluation Marks (1 credit)	External Evaluation on Marks (1 credit)	Total
MOOC10	Green Social Work	2	30 hours	25	25	50