## Department of Geology
## Savitribai Phule Pune University, Pune 411 007

**Subject**: Resolution for the Revised Syllabus for the Ph D Course work to be conducted under Department of Geology, Savitribai Phule Pune University.

**Introduction**

The Ph D coursework defines a foundation and normalizing course for the research students being registered for the Ph D program at the Department of Geology as Research Center. Coursework is aimed at bridging the gap between M Sc and Ph D programs apart from emphasizing upon some of the important concepts of M Sc that are critical to be gained for further research. Moreover the coursework syllabus needs to be flexible to maintain the specializations and have foundations for the specific research problems. Overall it is student's orientation for good quality of PhDs to be produced from the Department. Further in this syllabus, an emphasis is given to train the students for understanding the case studies, reviews and self- appraisal on various upcoming tools and methods of research relevant to the area of interest.

The present document of the syllabus discussed in detail during the Departmental committee meeting held on 5$^{th}$ January 2023 and finalize to be submitted to BOS/Academic Council for approval. Considering the urgency to complete the coursework for the current academic batch of students from this department, the Departmental Committee passed a resolution on this date of 5$^{th}$ January 2023 to follow the syllabus and start the coursework.

**Referendum:**

The procedure for the coursework is followed Vide SPPU Circular No. 14/2017 and the departmental committee discussed and approved the syllabus to be adopted with effect from new admissions since January 2021 including the option for students from previous admissions.

The clause number 7 of the university circular (14/2017) defines the credits of the course work as follows for a total of 16 credits and additionally 2 Credits for the course on ethics are introduced thereafter. The general regulations followed while drafting the new syllabus are as below:

One credit equals 15 hrs of teaching and 30 Contact hrs. Whereas one credit is qualified as 45 hours (totaling the teaching+contact hours) in order to maintain the flexibility within the syllabus for allowing assignments relevant to individual topics and specializations. The Contact hours may be defined by the strength of assignment given (to be decided by the Supervisor(s)) and can include Assignments, presentations, seminars, Trainings or attending the conferences to be certified by the departmental research advisory committee. In the course content code drafted below, the suffix 'T' indicates the actual theory classes to be conducted by the faculty. The suffix 'P' indicates practicals in terms of assignments, presentations, field reports, attending the workshops/seminars to be certified by the departmental research committee after recommendation from the supervisor. As an example, the suffix P10 represents one assignment topic to be evaluated for 10 marks; and its multiples increases the topic (e.g., P20= 2 topics/assignments,P30 = 3 topics/assignments). Wherein, T1 is one hour lecture by the faculty, like wise T2 = 2, T3 = 3 etc. The course contents are defined as below.

| *Course S.N.* | *Course Title* | *Credits* | *Course Contents and Code* | *Teaching Hrs* | *Contact Hrs* |
|---|---|---|---|---|---|
| **1.** | **Research Methodology** | **2** | **To be centrally conducted by the University** | **----** | **---** |
| | | **2** | **PL 101: Quantitative methods in geosciences (T6+P30), Computer Applications (T4+P20), Reviews of published data based research in the relevant field (P20), field work (P10)= Total 90 hrs** | **30** | **60** |
| **2.** | **Writing of Research Proposal and Writing of reviews** | **1** | **PL 102: Rationale, Aims, Objectives, Origin of idea (T3+P10). Case study of research proposals (T2+P10). Writing two research proposal examples for funding by the student (topics to be given by the Supervisor) (P20), Using bibliographic analysis software (T5) = Total 50 hrs** | **5** | **45** |
| | **Seminars** | **2** | **Two Presentations by the students by inhouse seminar or presentation by attending conference/workshop.** | **--** | **30** |
| **3** | **Subject Specific Advanced Level Courses (Total 8 Credits)……..** | | | | |
| **3.1** | **Mineralogy** | **1** | **Advanced topics in Mineralogy (T3+P10), Analytical Methods in Mineralogy (T4+P10), Related Case studies (T2+P10), A review of relevant analytical method (P10) = 49 hrs** | **15** | **30** |
| **3.2** | **Petrology** | **1** | **Advanced topics in Igneous (T4+P10), Metamorphic (T2+P10) and Sedimentary (T4+P10) Geology, A relevant case study (P10) = 50 hrs** | **15** | **30** |
| **3.3** | **Structural Geology and Tectonics** | **1** | **Advanced topics (T5+P10) and Case studies (P10) in structural Geology, Advanced topics in Tectonics (T4+P10)and Case studies (P10) = 49 hrs** | **15** | **30** |
| **3.4** | **Economic Geology, Geochemistry and Isotope Geology** | **1** | **Advanced Topics and Case studies in Economic Geology (T3+P10), Geochemistry (T3+P10), isotope geology (T3+P20) = 46 hrs** | **15** | **30** |
| **3.5** | **Stratigraphy and Palaeontology** | **1** | **Advanced Topics and Case studies in ltho-, bio-, magneto-, sequence stratigraphy (T4+P30), Palaeontology (T2+P10)** | **15** | **30** |
| **3.6** | **Physics of the Earth, Geophysical Exploration** | **1** | **Advanced Topics and Case studies in Physics of the Earth (T4+P20), geophysicalexploration (T4+P20) = 48 hrs** | **15** | **30** |
| **3.7** | **Geomorphology, Remote Sensing and** | **1** | **Geomorphology (T5+P20), Remote Sensing (T2+P10) and GIS (T2+P10) = 49 hrs** | **15** | **30** |

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| | **GIS** | | | | |
| **3.8** | **Quaternary Geology, Climate Change and Neotectonics** | **1** | **Quaternary Geology (T3+P20), Paleoclimate and Climate Change (T3 + P10) and Neotectonics (T2 + P10) = 48 hrs** | **15** | **30** |
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**Guidelines and Rules for the evaluation of the coursework**

Contents of Course 1 and Course 3 above shall be prescribed by the Board of Studies after the syllabus is recommended by the Department. All courses shall be in conformity with the credit hour instructional requirement and shall specify content, instructional and assessment methods. They shall be duly approved by the Academic Council of the SPPU. The University Department/ recognized research centre at affiliated college or recognized institution/ recognized research institution where the scholar pursues his research shall prescribe the course(s) to him based on the recommendations of the Research Advisory Committee of the research scholar. All candidates admitted to Ph.D. programmes shall be required to complete the course work, as approved by the Academic Council of SPPU, during the initial one or two semesters. Candidates already holding M. Phil. degree and admitted to the Ph.D. programme, or those who have already completed the course work in M.Phil. and have been permitted to proceed to the Ph.D. in integrated course, shall be exempted from the Ph.D. course work. All other candidates admitted to the Ph.D. programme shall be required to complete the Ph.D. course work approved by the Academic Council of the SPPU. Grades in the course work, including research methodology courses shall be finalized after a combined assessment by the Research Advisory Committee and the Place of Research and the final grades shall be communicated to the P.G. Admission Section of the SPPU. Ph.D. scholar has to obtain a minimum of 55% of marks or its equivalent grade in the UGC 7-point scale (or an equivalent grade / CGPA in a point scale wherever grading system is followed) in the course work in order to be eligible to continue in the programme and submit the dissertation/thesis. Online as well as offline mode may be adopted for the teaching and interaction.

General Guidelines to the faculty for the course coordination and emphasis of assignment topics:

The assignments may emphasize on the following topics (although not necessarily be restricted) or to be decided by the supervisors depending upon the specializations of the student.

*Suggested Topics:*

Field Mapping and Documentation Methods, Theory and Methods of Sampling for various approaches in Geosciences, Parametric Analysis and Quantitative and Qualitative Methods in Geosciences, Statistical and Standard graphical representation, Computer Applications is Geology.

Research Proposals for obtaining financial assistance from national/international funding agencies. Writing Reviews, compilation of databases, Poster presentation, Review and Flow chart of specific methodology.