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| **B. Ed 1.5 Science** | | | | | | |
| Course Name**: Teaching Strategies in Science Education** | | | | | | |
| **Course Code:** | | EDUC-6510 | | **Credit Hours:** | | 3 |
| **Introduction:** | | | | | | |
| Teaching science subjects is complex and demanding work. It requires highly specialized skills and knowledge to impact significantly on student learning. Teaching is a dynamic profession and, as the„ knowledge about methods of teaching science subjects and learning emerges, new types of expertise that are required by the educators/teachers.  Teachers must use this knowledge to continually refine their conceptual and pedagogical skills.  This course highlights the essential attributes of the teacher in making the teaching effective for the learners. It describes the importance and types of teacher planning practice related to different teaching methods for science subjects in classroom. | | | | | | |
| **Learning outcomes:** | | | | | | |
| After completing the course, the students will:   1. Understand the importance of the efficient teaching methodology in the overall teaching learning process. 2. Appreciate the characteristics of various innovative methods of teachings. 3. Select/develop the model of effective teaching in local context. | | | | | | |
| **Prerequisite: N / A** | | | | | | |
| **Course Outline** | | | | | | |
| Unit 1 |  | **Introduction to Teaching** | | | | |
|  |  | Definitions of Teaching | | | | |
|  |  | The concept of Effective Teaching | | | | |
|  |  | Role of Teacher for Conducive Learning Environment | | | | |
|  |  | Professional Characteristics of an Effective Teacher | | | | |
|  |  | The Concepts of Teaching Methods, Strategies and Techniques | | | | |
| Unit 2 |  | **Lesson Planning in Teaching** | | | | |
|  |  | The Need for Lesson Planning | | | | |
|  |  | Approaches to Lesson Planning | | | | |
|  |  | Course & Unit Planning | | | | |
|  |  | Steps in Lesson Planning | | | | |
|  |  | The Lesson Plan Format | | | | |
| Unit 3 |  | **Students Motivation** | | | | |
|  |  | Concept of Motivation | | | | |
|  |  | Intrinsic Motivation | | | | |
|  |  | Extrinsic Motivation | | | | |
|  |  | Theories of Motivations | | | | |
|  |  | Strategies to Motivate Students | | | | |
| Unit 4 |  | **Inquiry Methods** | | | | |
|  |  | The Inductive Method | | | | |
|  |  | Deductive Method | | | | |
|  |  | Scientific Method | | | | |
|  |  | The Problem Solving Approach | | | | |
|  |  | Advantages and Limitations of Inquiry Method | | | | |
| Unit 5 |  | **Activity Methods** | | | | |
|  |  | Individual Project | | | | |
|  |  | Group Project | | | | |
|  |  | Research Projects | | | | |
|  |  | Advantages and Limitations of Activity Method | | | | |
| Unit 6 |  | **Discussion Method** | | | | |
|  | 1. | What is Classroom Discussion | | | | |
|  | 2. | Planning the Discussion | | | | |
|  | 3. | Organizing the Discussion | | | | |
|  | 4. | Practicing in Asking Questions | | | | |
|  | 5. | Practicing in Answering the Questions | | | | |
|  | 6. | Assessing the Discussion | | | | |
|  | 7. | Advantages and Limitations of Discussion Method | | | | |
| Unit 7 |  | **Cooperative learning** | | | | |
|  | 1. | Cooperative Learning | | | | |
|  | 2. | Techniques of Cooperative Learning | | | | |
|  | 3. | Advantages and Limitations of Cooperative Method | | | | |
| Unit 8 |  | **Teaching Skills** | | | | |
|  | 1. | Set Induction | | | | |
|  | 2. | Presentation | | | | |
|  | 3. | Identify Learning Difficulties of Students | | | | |
|  | 4. | Prepare Lesson according to Individual Needs | | | | |
|  | 5. | Students Evaluation | | | | |
| Unit 9 |  | **Teaching Tools** | | | | |
|  | 1. | Selecting the Audio Visual Material | | | | |
|  | 2. | Planning To Use the Materials | | | | |
|  | 3. | Preparing For the Audio Visual Activity | | | | |
|  | 4. | Kinds of AV Materials | | | | |
| **Course Assignment** | | | | | | |
| A variety of assessments will be used to assess student learning. It is recommended that practical work will count towards 64% of the final grade and all the components of practical work will be completed in consecutively 10 weeks. The 5 seminars and two visits of schools will be arranged during this period. | | | | | | |
| **Assessment Criteria and Time Distribution of Course** | | | | | | |
| Theory and classroom activities | | | 12 weeks | | 64% |  |
| Discussion session | | | 1 weeks | | 16 % |  |
| Presentations | | | 3 weeks | | 20% |  |
| **Reading Material:**  Higher Education Commission (HEC) (2012). *Methods of Teaching*. Course Guide Associate Degree in Education/B.Ed. (Hons) Elementary. Islamabad | | | | | | |
| **Recommended Readings:**  Rajan, S. (2012). *Methodology of Teaching Science*. Pearson India  Chueca, C. (2016). *Teaching Natural Science through Montessori Method in Primary Education*. Retrieved from <https://uvadoc.uva.es/bitstream/10324/18537/1/TFG-O%20740.pdf> | | | | | | |