



| No. | Level - Course type           | Subject                                 | Lecture title                                                                              | Lecture link                                                                                                                                          |
|-----|-------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Third Level - Bolonga Process | Differential Equations                  | Equation of order n with constant coefficients                                             | <a href="https://drive.google.com/open?id=1SFDK5rVrV3xbrKs1ylebCKdo75fjbKm">https://drive.google.com/open?id=1SFDK5rVrV3xbrKs1ylebCKdo75fjbKm</a>     |
| 2   | Third Level - Bolonga Process | Differential Equations                  | The operator D                                                                             | <a href="https://drive.google.com/open?id=13cCqqlbVQ02QScSauc0G3DKswM8D5">https://drive.google.com/open?id=13cCqqlbVQ02QScSauc0G3DKswM8D5</a>         |
| 3   | Third Level - Bolonga Process | Differential Equations                  | FOURIER SERIES                                                                             | <a href="https://drive.google.com/open?id=1MmXacVkoR5uEdOy37Bb30uXM0QwORQ">https://drive.google.com/open?id=1MmXacVkoR5uEdOy37Bb30uXM0QwORQ</a>       |
| 4   | Third Level - Bolonga Process | Differential Equations                  | Classification of 2nd order P.D.E                                                          | <a href="https://drive.google.com/open?id=1dGzD-or_zy32sP062ivBf4Nm-qTrbrtLG">https://drive.google.com/open?id=1dGzD-or_zy32sP062ivBf4Nm-qTrbrtLG</a> |
| 5   | Third Level - Bolonga Process | Differential Equations                  | Beam column                                                                                | <a href="https://drive.google.com/open?id=1ITXnmEmvK2HdUy2AYMmF67-eLhGSgh">https://drive.google.com/open?id=1ITXnmEmvK2HdUy2AYMmF67-eLhGSgh</a>       |
| 6   | Third Level - Bolonga Process | Numerical analysis                      | NUMERICAL ANALYSIS                                                                         | <a href="https://drive.google.com/open?id=1Khe8l9nSHFE6wMGOWGSFw-AnCAsMsx">https://drive.google.com/open?id=1Khe8l9nSHFE6wMGOWGSFw-AnCAsMsx</a>       |
| 7   | Third Level - Bolonga Process | Numerical analysis                      | LU Factorization Method                                                                    | <a href="https://drive.google.com/open?id=186cBQK9K_ujshwbn6aE6-Bq15OUuqKZ">https://drive.google.com/open?id=186cBQK9K_ujshwbn6aE6-Bq15OUuqKZ</a>     |
| 8   | Third Level - Bolonga Process | Numerical analysis                      | Method of Least Squares                                                                    | <a href="https://drive.google.com/open?id=1urdWRArn74ri9XK5Icey9g8xu87j0">https://drive.google.com/open?id=1urdWRArn74ri9XK5Icey9g8xu87j0</a>         |
| 9   | Third Level - Bolonga Process | Numerical analysis                      | Lecture about MATLAB                                                                       | <a href="https://drive.google.com/open?id=1SeLx2lgt0WGof-g6JoxcMQ84-7qdK8tv">https://drive.google.com/open?id=1SeLx2lgt0WGof-g6JoxcMQ84-7qdK8tv</a>   |
| 10  | Third Level - Bolonga Process | Numerical analysis                      | How to use MATLAB(M File)                                                                  | <a href="https://drive.google.com/open?id=1uo7GktD3_AkZM4UjT08ePGGu5l4sE1_V">https://drive.google.com/open?id=1uo7GktD3_AkZM4UjT08ePGGu5l4sE1_V</a>   |
| 11  | Third Level - Bolonga Process | Soil mechanics I                        | 1 soil composition                                                                         | <a href="https://drive.google.com/open?id=1l_TQpH8Ym1mPEWRuFet2zRhqCWBzj">https://drive.google.com/open?id=1l_TQpH8Ym1mPEWRuFet2zRhqCWBzj</a>         |
| 12  | Third Level - Bolonga Process | Soil mechanics I                        | 2 Soil Consistency and Atterberg Limits                                                    | <a href="https://drive.google.com/open?id=1PeTqS2YIP9iKPwWjB5zRhuQ2uDpZ">https://drive.google.com/open?id=1PeTqS2YIP9iKPwWjB5zRhuQ2uDpZ</a>           |
| 13  | Third Level - Bolonga Process | Soil mechanics I                        | 3 soil classification                                                                      | <a href="https://drive.google.com/open?id=13iqvsK7KH9s2u_Grz1lyukWCHQpNCxU">https://drive.google.com/open?id=13iqvsK7KH9s2u_Grz1lyukWCHQpNCxU</a>     |
| 14  | Third Level - Bolonga Process | Soil mechanics I                        | 4 Permeability                                                                             | <a href="https://drive.google.com/open?id=1086inU0ASEpNuA66_YYO8VFPyCVqlc">https://drive.google.com/open?id=1086inU0ASEpNuA66_YYO8VFPyCVqlc</a>       |
| 15  | Third Level - Bolonga Process | Soil mechanics I                        | 5 stresses in soil                                                                         | <a href="https://drive.google.com/open?id=1j9sNFU2VB-Nn52fZ-Rg85oN06sff1UyN">https://drive.google.com/open?id=1j9sNFU2VB-Nn52fZ-Rg85oN06sff1UyN</a>   |
| 16  | Third Level - Bolonga Process | Soil mechanics I                        | Water content and Unit weight                                                              | <a href="https://drive.google.com/open?id=1ZjK1E9dj-4ZMFivURZu7G7QkRn4j7y">https://drive.google.com/open?id=1ZjK1E9dj-4ZMFivURZu7G7QkRn4j7y</a>       |
| 17  | Third Level - Bolonga Process | Soil mechanics I                        | Specific gravity of soil                                                                   | <a href="https://drive.google.com/open?id=1K5Z2g_9_kUDcwjKlfibi4xzgm12j1G">https://drive.google.com/open?id=1K5Z2g_9_kUDcwjKlfibi4xzgm12j1G</a>       |
| 18  | Third Level - Bolonga Process | Soil mechanics I                        | Atterberg limits                                                                           | <a href="https://drive.google.com/open?id=1Qupfmi_uzyp-omwMGLemsCKwMrCOIKw">https://drive.google.com/open?id=1Qupfmi_uzyp-omwMGLemsCKwMrCOIKw</a>     |
| 19  | Third Level - Bolonga Process | Soil mechanics I                        | Sieve size analysis for soil                                                               | <a href="https://drive.google.com/open?id=1sEzR1tzeplK6vDcIRWotmdz8e0F8Pn">https://drive.google.com/open?id=1sEzR1tzeplK6vDcIRWotmdz8e0F8Pn</a>       |
| 20  | Third Level - Bolonga Process | Soil mechanics I                        | Hydrometer analysis                                                                        | <a href="https://drive.google.com/open?id=1xVvX6E6J4KueP8jNcrZbPTTe3BnwQc">https://drive.google.com/open?id=1xVvX6E6J4KueP8jNcrZbPTTe3BnwQc</a>       |
| 21  | Third Level - Bolonga Process | Soil mechanics II                       | Permeability test                                                                          | <a href="https://drive.google.com/open?id=13G3DjSp5mELFDva2crxSn5L2hgAA_AC">https://drive.google.com/open?id=13G3DjSp5mELFDva2crxSn5L2hgAA_AC</a>     |
| 22  | Third Level - Bolonga Process | Soil mechanics II                       | Consolidation test                                                                         | <a href="https://drive.google.com/open?id=1atpw3eCe24rriUdIPKIMntuTATWD_a9">https://drive.google.com/open?id=1atpw3eCe24rriUdIPKIMntuTATWD_a9</a>     |
| 23  | Third Level - Bolonga Process | Soil mechanics II                       | Unconfined Compression test                                                                | <a href="https://drive.google.com/open?id=15LXEYwD2C-kMpBrY16Uj1SG7DQsudPQ">https://drive.google.com/open?id=15LXEYwD2C-kMpBrY16Uj1SG7DQsudPQ</a>     |
| 24  | Third Level - Bolonga Process | Soil mechanics II                       | Direct shear test                                                                          | <a href="https://drive.google.com/open?id=1Y0b0Hu58t06IRA2xTlrSZBrtGYrxkSY">https://drive.google.com/open?id=1Y0b0Hu58t06IRA2xTlrSZBrtGYrxkSY</a>     |
| 25  | Third Level - Bolonga Process | Soil mechanics II                       | Field density                                                                              | <a href="https://drive.google.com/open?id=1TaUAvellVwGiDyoznVIPA-Dh-ncnqTDE">https://drive.google.com/open?id=1TaUAvellVwGiDyoznVIPA-Dh-ncnqTDE</a>   |
| 26  | Third Level - Bolonga Process | Soil mechanics I                        | Seepage under hydraulic structures                                                         | <a href="https://drive.google.com/open?id=1E1BWBnNQSuWjRkwpl-hWVuLEmk7q00e">https://drive.google.com/open?id=1E1BWBnNQSuWjRkwpl-hWVuLEmk7q00e</a>     |
| 27  | Third Level - Bolonga Process | Soil mechanics I                        | Seepage through earth dams                                                                 | <a href="https://drive.google.com/open?id=1fybTxSMNs2R8A6gk2tztY3A7l3iF0">https://drive.google.com/open?id=1fybTxSMNs2R8A6gk2tztY3A7l3iF0</a>         |
| 28  | Third Level - Bolonga Process | Soil mechanics I                        | Soil Compaction                                                                            | <a href="https://drive.google.com/open?id=1r8FKKmR6-wvERmbuPKYxOX0EikongEnu">https://drive.google.com/open?id=1r8FKKmR6-wvERmbuPKYxOX0EikongEnu</a>   |
| 29  | Third Level - Bolonga Process | Soil mechanics I                        | Field Density Tests                                                                        | <a href="https://drive.google.com/open?id=1BWOf_4WTFt3JalhVDT74T82wdmDVgp">https://drive.google.com/open?id=1BWOf_4WTFt3JalhVDT74T82wdmDVgp</a>       |
| 30  | Third Level - Bolonga Process | Soil mechanics I                        | Soil Stabilization                                                                         | <a href="https://drive.google.com/open?id=1X8XDnLrENwE_o5EgOkafRy40dmhu16Uj">https://drive.google.com/open?id=1X8XDnLrENwE_o5EgOkafRy40dmhu16Uj</a>   |
| 31  | Third Level - Bolonga Process | Reinforced concrete II                  | Short column                                                                               | <a href="https://drive.google.com/open?id=1MdiuW46GvP8oCT3OA0ELzDAVxoY2n4">https://drive.google.com/open?id=1MdiuW46GvP8oCT3OA0ELzDAVxoY2n4</a>       |
| 32  | Third Level - Bolonga Process | Reinforced concrete II                  | Lateral Ties and Spirals.                                                                  | <a href="https://drive.google.com/open?id=14DwTayvMWOUXy3CM8-coccl_IH10aR-Dp">https://drive.google.com/open?id=14DwTayvMWOUXy3CM8-coccl_IH10aR-Dp</a> |
| 33  | Third Level - Bolonga Process | Reinforced concrete II                  | Interaction diagram                                                                        | <a href="https://drive.google.com/open?id=1g7lv9Sge01n24sTNfWuLfUay5g_h0v">https://drive.google.com/open?id=1g7lv9Sge01n24sTNfWuLfUay5g_h0v</a>       |
| 34  | Third Level - Bolonga Process | Reinforced concrete II                  | Example ) short column                                                                     | <a href="https://drive.google.com/open?id=1n7Gr16jM_ReSA5iboG8Aqx1sFkjlJUG">https://drive.google.com/open?id=1n7Gr16jM_ReSA5iboG8Aqx1sFkjlJUG</a>     |
| 35  | Third Level - Bolonga Process | Reinforced concrete II                  | ACI CODE PROVISION FOR COLUMN DESIGN                                                       | <a href="https://drive.google.com/open?id=1RghR2BirbWbFRNW4OdKupNiXteUTvR">https://drive.google.com/open?id=1RghR2BirbWbFRNW4OdKupNiXteUTvR</a>       |
| 36  | Third Level - Bolonga Process | Engineering project design and planning | Lecture 1                                                                                  | <a href="https://drive.google.com/open?id=1ZDkez_S79e95AEstRZ3FNA8XfCjohMS">https://drive.google.com/open?id=1ZDkez_S79e95AEstRZ3FNA8XfCjohMS</a>     |
| 37  | Third Level - Bolonga Process | Engineering management                  | Introduction to Construction Management                                                    | <a href="https://drive.google.com/open?id=14Eq20mQEK9agx7K8aMEGS8zA0rEQB-r">https://drive.google.com/open?id=14Eq20mQEK9agx7K8aMEGS8zA0rEQB-r</a>     |
| 38  | Third Level - Bolonga Process | Engineering management                  | Construction project planning                                                              | <a href="https://drive.google.com/open?id=1O0wtO0jGKW7gyoFe5uXjcnY3CzgGYJM">https://drive.google.com/open?id=1O0wtO0jGKW7gyoFe5uXjcnY3CzgGYJM</a>     |
| 39  | Third Level - Bolonga Process | Engineering management                  | Bar chart                                                                                  | <a href="https://drive.google.com/open?id=1eM2RSPvajGdbpWkRamD85tHy7OLLuTC">https://drive.google.com/open?id=1eM2RSPvajGdbpWkRamD85tHy7OLLuTC</a>     |
| 40  | Third Level - Bolonga Process | Engineering management                  | Network diagram (BERT)                                                                     | <a href="https://drive.google.com/open?id=1NgMA49ieL1nzSfMxyVpJfK1JJPX6z5P3">https://drive.google.com/open?id=1NgMA49ieL1nzSfMxyVpJfK1JJPX6z5P3</a>   |
| 41  | Third Level - Bolonga Process | Engineering management                  | Risk management                                                                            | <a href="https://drive.google.com/open?id=10bIJOz2_e1J-5Hm1ym-xHTV16wabYBX">https://drive.google.com/open?id=10bIJOz2_e1J-5Hm1ym-xHTV16wabYBX</a>     |
| 42  | Third Level - Bolonga Process | Highway Engineering I                   | Volume of Earthwork for Highway                                                            | <a href="https://drive.google.com/open?id=1mKVN2LZFGFo-gclufzpg55SQqK1bTe5A">https://drive.google.com/open?id=1mKVN2LZFGFo-gclufzpg55SQqK1bTe5A</a>   |
| 43  | Third Level - Bolonga Process | Highway Engineering II                  | Analysis of Traffic Loading for Pavement Design                                            | <a href="https://drive.google.com/open?id=16n2a8mcmB6MxaccqporBxCp2j3cEA0fE">https://drive.google.com/open?id=16n2a8mcmB6MxaccqporBxCp2j3cEA0fE</a>   |
| 44  | Third Level - Bolonga Process | Highway Engineering II                  | 11-Design of Flexible Pavement ( AASHTO Method )                                           | <a href="https://drive.google.com/open?id=1yKY3lV5olsEIWQ-VTj7p9ozg9m9A2-Sz">https://drive.google.com/open?id=1yKY3lV5olsEIWQ-VTj7p9ozg9m9A2-Sz</a>   |
| 45  | Third Level - Bolonga Process | Highway Engineering II                  | Asphalt Institute Method Design                                                            | <a href="https://drive.google.com/open?id=1YqmfQqRA09RQ2Ylyj6qjRc7KE9UK61">https://drive.google.com/open?id=1YqmfQqRA09RQ2Ylyj6qjRc7KE9UK61</a>       |
| 46  | Third Level - Bolonga Process | Highway Engineering II                  | Pavement Construction & Maintenance                                                        | <a href="https://drive.google.com/open?id=12Gh86RARdKOSy5YrfeGUOE98Q-sKkuS">https://drive.google.com/open?id=12Gh86RARdKOSy5YrfeGUOE98Q-sKkuS</a>     |
| 47  | Third Level - Bolonga Process | Highway Engineering II                  | Pavement Performance                                                                       | <a href="https://drive.google.com/open?id=1bEUtVb9FnUJA2FYXcalc12C7Y3XZa">https://drive.google.com/open?id=1bEUtVb9FnUJA2FYXcalc12C7Y3XZa</a>         |
| 48  | Third Level - Bolonga Process | Theory of structures I                  | Introduction to Structural Analysis                                                        | <a href="https://drive.google.com/open?id=1UcMgWeUbrQTm5-xxD1eQrNUHirmTPr">https://drive.google.com/open?id=1UcMgWeUbrQTm5-xxD1eQrNUHirmTPr</a>       |
| 49  | Third Level - Bolonga Process | Theory of structures I                  | Determinacy and Stability of Structures                                                    | <a href="https://drive.google.com/open?id=1PfzTOPZ2s-8zLF392YC3LmLU8gezQkze">https://drive.google.com/open?id=1PfzTOPZ2s-8zLF392YC3LmLU8gezQkze</a>   |
| 50  | Third Level - Bolonga Process | Theory of structures I                  | Determinacy and Stability of Structures part 2                                             | <a href="https://drive.google.com/open?id=1wNmDSXNjw4w_13KIW1GnVee1eRfH8wV">https://drive.google.com/open?id=1wNmDSXNjw4w_13KIW1GnVee1eRfH8wV</a>     |
| 51  | Third Level - Bolonga Process | Theory of structures I                  | Examples in Stability & Determinacy of structures                                          | <a href="https://drive.google.com/open?id=130HRN6zsjOsIOQl_D0u8DOxLqV3M-KG">https://drive.google.com/open?id=130HRN6zsjOsIOQl_D0u8DOxLqV3M-KG</a>     |
| 52  | Third Level - Bolonga Process | Theory of structures I                  | Analysis of Statically Determinate Structures (Beams Trusses and Frames)                   | <a href="https://drive.google.com/open?id=1MUJSJGXsazipbEuFLQdNwbJmcBwvuQH">https://drive.google.com/open?id=1MUJSJGXsazipbEuFLQdNwbJmcBwvuQH</a>     |
| 53  | Third Level - Bolonga Process | Theory of structures I                  | Deformations of Statically Determinate Structures - Virtual Work Method (Unit Load Method) | <a href="https://drive.google.com/open?id=1HfettlozbgJFXhabybrbmGnDaKXW6j9">https://drive.google.com/open?id=1HfettlozbgJFXhabybrbmGnDaKXW6j9</a>     |
| 54  | Third Level - Bolonga Process | Theory of structures I                  | Deformations of Statically Determinate Structures - Castigliano's First Theorem            | <a href="https://drive.google.com/open?id=1XXxR28-oDHg1v_g8hvc7fEhCQdk6mGfX">https://drive.google.com/open?id=1XXxR28-oDHg1v_g8hvc7fEhCQdk6mGfX</a>   |
| 55  | Third Level - Bolonga Process | Theory of structures I                  | Deformations of Statically Determinate Structures - Conjugate Beam Method                  | <a href="https://drive.google.com/open?id=1Jnh2uIQ-xyfEKjl4dsXyjl7QX0Dlyp0">https://drive.google.com/open?id=1Jnh2uIQ-xyfEKjl4dsXyjl7QX0Dlyp0</a>     |
| 56  | Third Level - Bolonga Process | Theory of structures I                  | Draw the Influence Lines of Statically Determinate Structures                              | <a href="https://drive.google.com/open?id=1k3PShdhpM89mBudsf4UjP59arv5jP">https://drive.google.com/open?id=1k3PShdhpM89mBudsf4UjP59arv5jP</a>         |