

**TOTAL COURSE – PROGRAMME OUTCOMES RELATIONSHIP**

| COURSE INFORMATION     |   |   |   |       | PROGRAMME OUTCOMES |     |     |     |     |     |     |     |     |      |      |
|------------------------|---|---|---|-------|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| Code                   | Name  | T | P | ECTES | PO1                | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
| <b>FALL SEMESTER</b>   |   |   |   |       |                    |     |     |     |     |     |     |     |     |      |      |
| INS8001                | Advanced Engineering Mathematics                      | 3 | 0 | 8     | 0                  | 3   | 0   | 3   | 3   | 0   | 0   | 0   | 0   | 0    | 0    |
| INS8003                | Computer Aided Engineering Mechanics                  | 3 | 0 | 8     | 3                  | 4   | 2   | 4   | 4   | 3   | 4   | 0   | 0   | 5    | 4    |
| FBE8001                | Scientific Research Techniques and Publication Ethics | 3 | 0 | 8     | 4                  | 3   | 4   | 3   | 5   | 5   | 4   | 2   | 3   | 3    | 5    |
| INS7001                | Seminar   | 0 | 2 | 8     | 5                  | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5    | 5    |
| INS7003                | Doctoral Qualification                                | 0 | 0 | 30    | 5                  | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5    | 5    |
| INS7005                | Specialized Field Course                              | 5 | 0 | 2     | 5                  | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5    | 5    |
| INS7007                | Thesis proposal                                       | 0 | 0 | 30    | 5                  | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5    | 5    |
| INS7009                | Thesis Research                                       | 0 | 1 | 30    | 5                  | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5   | 5    | 5    |
| INS7101                | Matrix Methods in Structural Analysis                 | 3 | 0 | 8     | 3                  | 4   | 3   | 5   | 5   | 3   | 4   | 0   | 0   | 4    | 4    |
| INS7103                | Control of Structures                                 | 3 | 0 | 8     | 4                  | 4   | 5   | 2   | 3   | 1   | 3   | 3   | 4   | 4    | 3    |
| INS7105                | Soil-Structure Interaction                            | 3 | 0 | 8     | 3                  | 3   | 2   | 3   | 4   | 2   | 2   | 3   | 2   | 3    | 1    |
| INS7107                | Rheology of Construction Materials                    |   |   |       |                    |     |     |     |     |     |     |     |     |      |      |
| INS7109                | Soils Modelling                                       | 3 | 0 | 8     | 4                  | 4   | 3   | 3   | 3   | 2   | 3   | 2   | 3   | 3    | 2    |
| INS7111                | Roller Compacted Concrete Pavements                   | 3 | 0 | 8     | 4                  | 3   | 3   | 3   | 4   | 1   | 3   | 1   | 4   | 3    | 1    |
| INS7113                | Discrete Choice Modeling in Transportation            | 3 | 0 | 8     | 4                  | 3   | 3   | 2   | 2   | 2   | 3   | 3   | 2   | 3    | 4    |
| <b>SPRING SEMESTER</b> |   |   |   |       |                    |     |     |     |     |     |     |     |     |      |      |
| INS8002                | Advanced Numerical Analysis                           | 3 | 0 | 8     | 3                  | 2   | 2   | 3   | 4   | 2   | 2   | 2   | 1   | 3    | 1    |

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|---------|--|---|---|----|---|---|---|---|---|---|---|---|---|---|---|
| INS8004 | Finite Element Method                        | 3 | 0 | 8  | 3 | 4 | 3 | 5 | 5 | 3 | 4 | 0 | 0 | 4 | 4 |
| INS7002 | Seminar                                      | 0 | 2 | 8  | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| INS7004 | Doctoral Qualification                       | 0 | 0 | 30 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| INS7006 | Specialized Field Course                     | 5 | 0 | 2  | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| INS7008 | Thesis proposal                              | 0 | 0 | 30 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| INS7010 | Thesis Research                              | 0 | 1 | 30 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| INS7102 | Stability of Structures                      | 3 | 0 | 8  | 4 | 4 | 5 | 2 | 3 | 1 | 3 | 3 | 4 | 4 | 3 |
| INS7104 | Engineering Seismology                       | 3 | 0 | 8  | 4 | 4 | 5 | 2 | 3 | 1 | 3 | 3 | 4 | 4 | 3 |
| INS7106 | Analytical Techniques in Concrete Technology | 3 | 0 | 8  | 2 | 3 | 3 | 5 | 2 | 3 | 3 | 2 | 3 | 2 | 2 |
| INS7108 | Advanced Structural Dynamics                 | 3 | 0 | 8  | 3 | 3 | 4 | 2 | 4 | 4 | 3 | 2 | 2 | 3 | 4 |
| INS7110 | Plates and Shells                            | 3 | 0 | 8  | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 |
| INS7112 | Boundary Element Method                      | 3 | 0 | 8  | 3 | 3 | 3 | 3 | 4 | 2 | 2 | 2 | 2 | 1 | 2 |
| INS7114 | Geotechnical Earthquake Engineering          | 3 | 0 | 8  | 4 | 4 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 2 |
| INS7116 | Numerical Methods in Geotechnics             | 3 | 0 | 8  | 4 | 4 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 2 |
| INS7118 | The Behavior of Soils                        | 3 | 0 | 8  | 4 | 4 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 2 |
| INS7120 | Traffic Simulation Modeling                  | 3 | 0 | 8  | 4 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 4 |