

**CE Department Phygital Certificate Course Details for 2nd Year and 3rd Year**

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| <b>Specialized Certificate for 2nd Year and 3rd Year</b> | <b>Any one certificate during 3rd and 4th Sem.</b> | Building Smarter: BIM in practice: Specialization:       | <a href="https://www.coursera.org/specializations/building-smarter-bim-in-practice">1. <u>https://www.coursera.org/specializations/building-smarter-bim-in-practice</u></a>                                                                                                               |
|                                                          |                                                    | Geotechnical Foundation Design: Specialization           | <a href="https://www.coursera.org/specializations/geotechnical-foundation-design">1. <u>https://www.coursera.org/specializations/geotechnical-foundation-design</u></a>                                                                                                                   |
|                                                          |                                                    | Bridge Infrastructure Design: Specialization:            | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/bridge-infrastructure-design?source=search#courses">1. <u>https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/bridge-infrastructure-design?source=search#courses</u></a> |
|                                                          | <b>Any one certificate during 5th and 6th Sem.</b> | Steel Multistory Building –System Design Specialization: | <a href="https://www.coursera.org/specializations/steel-multi-storey-building-system-design">1. <u>https://www.coursera.org/specializations/steel-multi-storey-building-system-design</u></a>                                                                                             |
|                                                          |                                                    | Mechanization in construction Specialization:            | <a href="https://www.coursera.org/specializations/mechanization-in-construction">1. <u>https://www.coursera.org/specializations/mechanization-in-construction</u></a>                                                                                                                     |
|                                                          |                                                    | The Engineering of structures around us: Specialization  | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/engineering-of-structures-around-us?source=search">1. <u>https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/engineering-of-structures-around-us?source=search</u></a>   |

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| <b>3rd Semester<br/>Two subjects for<br/>phygital<br/>learning<br/>certificate</b> | <b>CEC302: Solid Mechanics</b> | <b>1. Mechanics of Materials I: Fundamentals of Stress and Strain and Axial Loading.</b>         | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/mechanics-1?source=search">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/mechanics-1?source=search</a>                                                       |
|                                                                                    |                                | <b>2. Mechanics of Materials II: Thin Walled Pressure Vessels and Torsions</b>                   | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/mechanics2?source=search">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/mechanics2?source=search</a>                                                         |
|                                                                                    |                                | <b>3. Mechanics of Materials III: Beam Bending</b>                                               | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/beam-bending?source=search">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/beam-bending?source=search</a>                                                     |
|                                                                                    |                                | <b>4. Mechanics of Materials IV: Deflection, Buckling, Combined Loading and Failure Theories</b> | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/materials-structures?source=search">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/materials-structures?source=search</a>                                     |
|                                                                                    | <b>CEC301: Surveying I</b>     | <b>1. Geospatial Technology for Construction</b>                                                 | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/geospatial-technology-for-construction?source=search">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/geospatial-technology-for-construction?source=search</a> |
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| <b>4th Semester<br/>Two subjects for<br/>phygital<br/>learning<br/>certificate</b> | <b>CEC406: Concrete Technology</b>   | <b>Mastering Concrete Techniques</b> | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/mastering-concrete-techniques">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/mastering-concrete-techniques</a>         |
|                                                                                    | <b>CEC408: Structural Analysis I</b> | <b>Fundamentals of Engineering</b>   | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/fe-exam?fromClip=sfc_page_course_link~bWUBz">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/fe-exam?fromClip=sfc_page_course_link~bWUBz</a> |

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| <b>5th Semester<br/>Two subjects for<br/>phygital</b> | <b>CEC516: Transportation Engineering</b> | <b>Highway Planning, Pavement Design and Construction</b> | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/highway-planning-pavement-design-and-construction?source=search">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/highway-planning-pavement-design-and-construction?source=search</a> |
|                                                       |                                           | <b>1. Environmental Science</b>                           | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/environmental-science?source=search">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/environmental-science?source=search</a>                                                                             |

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| learning<br>certificate | CEC515:<br>Environmental<br>Engineering I | 2. Population, Food and Soil | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/population-food-and-soil?specialization=environmental-science">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/population-food-and-soil?specialization=environmental-science</a> |
|                         |                                           | 3. Energy and Environment    | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/energy-and-environment?specialization=environmental-science">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/learn/energy-and-environment?specialization=environmental-science</a>     |

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| 6th Semester<br>Two subjects for<br>phygital<br>learning<br>certificate | CED602: Hydraulic<br>Engineering                         | Design and Construction of<br>Hydropower Structures | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/design-and-construction-of-hydropower-structures?source=search#courses">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/design-and-construction-of-hydropower-structures?source=search#courses</a> |
|                                                                         | CEC617:<br>Construction<br>Engineering and<br>Management | Project Management in Construction                  | <a href="https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/project-management-in-construction?source=search">https://www.coursera.org/programs/iem-uem-group-2025-26-9pva1/specializations/project-management-in-construction?source=search</a>                                             |