



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA**  
Kakinada-533003, Andhra Pradesh (India)

**Comparison of Course Structure R16 with R19**

| Program Code | Program Name                    | Total No. of Courses |     | No of Subjects |               |                               | Total Courses | Percentage % |
|--------------|---------------------------------|----------------------|-----|----------------|---------------|-------------------------------|---------------|--------------|
|              |                                 | R16                  | R19 | Added in (R19) | Deleted (R16) | Content revised more than 20% |               |              |
| 021D20       | M.Tech – Structural Engineering | 32                   | 35  | 6              | 3             | 0                             | 9             | 26           |

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Coordinator

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## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

Kakinada-533003, Andhra Pradesh (India)

### Comparison of Course Structure R16 with R19

Program Code: 021D20

Program Name: M.Tech – Structural Engineering

Year : 1

Semester: 1

| R16         |            |                                 |   |   |   |   | R19         |            |                                 |   |   |   |   | Remarks           |                       |                    |
|-------------|------------|---------------------------------|---|---|---|---|-------------|------------|---------------------------------|---|---|---|---|-------------------|-----------------------|--------------------|
| Course code | Category   | Course Name                     | L | T | P | C | Course code | Category   | Course name                     | L | T | P | C | New Course? (R19) | Deleted Course? (R16) | Content Revision % |
| MSEI-1      | CORE       | Advanced Mathematics            | 3 | 1 | - | 3 | MSEI-2      | Core       | Structural Dynamics             | 3 | 0 | - | 3 |                   |                       | 0                  |
| MSEI-2      | CORE       | Theory of Elasticity            | 3 | 1 | - | 3 | MSEI-1      |            | Theory of Elasticity            | 3 | 0 | - | 3 |                   |                       | 0                  |
| MSEI-3      | CORE       | Matrix Analysis of Structures   | 3 | 1 | - | 3 |             |            |                                 |   |   |   |   |                   |                       |                    |
| MSEI-4      | Core       | Structural Dynamics             | 3 | 1 | - | 3 | MSEI-3      | Elective-I | Matrix Analysis of Structure    | 3 | 0 | - | 3 |                   |                       | 0                  |
| MSEI-5      | Elective-I | a) Experimental Stress Analysis | 4 | - | - | 3 |             | Elective-I | b) Experimental Stress Analysis |   |   |   |   |                   |                       |                    |

|         |             |  |   |   |   |   |             |            |  |                       |   |   |   |     |     |  |   |   |
|---------|-------------|--|---|---|---|---|-------------|------------|--|-----------------------|---|---|---|-----|-----|--|---|---|
| MSEI-6  | Elective-I  | c) Sub Structure Design                    |   |   |   |   |             | Elective-I | c) Sub Structure Design                    |                       |   |   |   |     |     |  | 0 |   |
| MSEI-7  | Elective-I  | d) Structural Optimization                 |   |   |   |   |             | Elective-I | d) Structural Optimization                 |                       |   |   |   |     |     |  | 0 |   |
| MSEI-8  | Elective-I  | Port and Harbour Structures                |   |   |   |   |             | MSEI-4     | Elective-II                                | a) Bridge Engineering |   |   |   |     | yes |  | 0 |   |
| MSEI-9  | Elective-II | a) Repair and Rehabilitation of Structures |   |   |   |   | Elective-II |            | b) Repair and Rehabilitation of Structures |                       |   |   |   |     |     |  |   | 0 |
| MSEI-10 | Elective-II | b) Analysis and Design of Tall Buildings   | 4 | - | - | 3 | Elective-II |            | b) Analysis and Design of Tall Buildings   | 3                     | 0 | - | 3 |     |     |  |   | 0 |
| MSEI-11 | Elective-II | d) Advanced Reinforced Concrete Design     |   |   |   |   | Elective-II |            | d)Advanced Reinforced Concrete Design      |                       |   |   |   |     |     |  |   | 0 |
| MSEI-12 | Elective-II | c) Plastic Analysis and Design             |   |   |   |   | MSEMC       |            | Research Methodology and IPR               | 2                     | 0 | 0 | 2 | Yes |     |  |   |   |
| MSEP-1  | Lab-2       | Advanced Structural Engineering Laboratory | - | - | 3 | 2 | MSEPI-2     | Lab-2      | Advanced Structural Engineering Laboratory | -                     | - | 4 | 2 |     |     |  |   |   |
|         |             |  |   |   |   |   | MSEPI-1     | Lab-1      | Advance Concrete                           | -                     | - | 4 | 2 |     |     |  |   |   |

|               |  |  |  |  |  |        |                |                 |   |   |   |   |     |  |  |
|---------------|--|--|--|--|--|--------|----------------|-----------------|---|---|---|---|-----|--|--|
|               |  |  |  |  |  |        |                | Laboratory      |   |   |   |   |     |  |  |
|               |  |  |  |  |  | MSEA-1 | Audit course-1 | Audit course -1 | 2 | 0 | 0 | 0 | Yes |  |  |
| Total Credits |  |  |  |  |  | 20     | Total Credits  |                 |   |   |   |   | 18  |  |  |



|               |             |                               |   |   |   |    |               |                |  |   |   |   |    |     |  |   |
|---------------|-------------|-------------------------------|---|---|---|----|---------------|----------------|--|---|---|---|----|-----|--|---|
|               |             | structures                    |   |   |   |    |               |                |  |   |   |   |    |     |  |   |
| MSEII-9       | Elective-IV | a) Industrial Structures      | 4 | - | - | 3  | MSEII-4       | Elective-IV    | b) Precast & Pre-fabricated Structures | 3 | 0 | - | 3  | Yes |  |   |
| MSEII-10      |             | b) Bridge Engineering         |   |   |   |    |               |                | a) Theory of plates & shells           |   |   |   |    |     |  | 0 |
| MSEII-11      |             | c) Earth Retaining Structures |   |   |   |    |               |                | c) Earth Retaining structures          |   |   |   |    |     |  | 0 |
| MSEII-12      |             | d) Inelastic Design of slabs  |   |   |   |    |               |                | d) Inelastic Design of slabs           |   |   |   |    |     |  | 0 |
| MSEMCP-2      |             | CAD Laboratory                | - | - | 4 | 2  | MSEMC         |                | CAD Laboratory                         | - | - | 4 | 2  |     |  | 0 |
|               |             |                               |   |   |   |    | MSEPII-1      | Lab-1          | Structural Design Laboratory           | - | - | 4 | 2  |     |  | 0 |
|               |             |                               |   |   |   |    | MSEPII-2      | Lab-2          | Mini Project with seminar              | 0 | 0 | 4 | 2  | Yes |  |   |
|               |             |                               |   |   |   |    | MSEA-2        | Audit Course-2 | Audit course-2                         | 2 | 0 | 0 | 0  | Yes |  |   |
| Total Credits |             |                               |   |   |   | 20 | Total Credits |                |  |   |   |   | 18 |     |  |   |

### Comparison of Course Structure R16 with R19

Program Code: 021D20

Program Name: M.Tech – Structural Engineering

Year : 2

Semester: 3

| R16           |          |                      |   |   |   |    | R19           |               |  |   |   |   |    | Remarks           |                      |                    |
|---------------|----------|----------------------|---|---|---|----|---------------|---------------|--|---|---|---|----|-------------------|----------------------|--------------------|
| Course code   | Category | Course Name          | L | T | P | C  | Course code   | Category      | Course name  | L | T | P | C  | New Course? (R19) | Deleted Course (R16) | Content Revision % |
| MSES-1        | CORE     | Seminar              |   |   | - | 2  | MSEIII-1      | Elective-V    | a)Plastic Analysis & Design  | 3 | 0 | - | 3  |                   |                      | 0                  |
| MSED-1        | CORE     | Design Project       |   |   | - | 2  |               |               | b) Prestressed Concrete  |   |   |   |    |                   |                      | 0                  |
| MSEPR-1       | CORE     | Dissertation /Thesis |   |   | - | 16 |               |               | c)Industrial Structures  |   |   |   |    |                   |                      | 0                  |
|               |          |                      |   |   |   |    | MSEIII-2      | Open Elective | Open Elective MOOCS  | 3 | 0 | - | 3  | Yes               |                      |                    |
|               |          |                      |   |   |   |    | Dissertation  | Core          | Dissertation Phase-1/Industrial Project(To be continued and evaluated next semester) |   |   |   | 16 |                   |                      | 0                  |
| Total Credits |          |                      |   |   | - | 20 | Total Credits |               |  |   |   | - | 16 |                   |                      |                    |

### Comparison of Course Structure R16 with R19

Program Code: 021D20

Program Name: M.Tech – Structural Engineering

Year : 2

Semester: 4

| R16           |          |                     |   |   |   |    | R19           |          |  |   |   |    |    | Remarks           |                      |                    |
|---------------|----------|---------------------|---|---|---|----|---------------|----------|--|---|---|----|----|-------------------|----------------------|--------------------|
| Course code   | Category | Course Name         | L | T | P | C  | Course code   | Category | Course name  | L | T | P  | C  | New Course? (R19) | Deleted course (R16) | Content Revision % |
| MSES-2        | CORE     | Seminar             |   |   | - | 2  | Dissertation  | CORE     | Project/Dissertation Phase-II(continued from III semester) |   |   | 32 | 16 |                   | Yes                  | 0                  |
| MSED-2        | CORE     | Design Project      |   |   |   | 2  |               |          |  |   |   |    |    |                   |                      | 0                  |
| MSEPR-2       | CORE     | Dissertation/Thesis |   |   |   | 16 |               |          |  |   |   |    |    |                   |                      | 0                  |
| Total credits |          |                     |   |   |   | 20 | Total credits |          |  |   |   |    | 16 |                   |                      |                    |