



SYLLABUS

SCHOOL OF ENGINEERING
ACADEMIC YEAR - 2019-20
DEFINATION OF ONE CREDIT:

PROGRAM: M. TECH - THERMAL SCIENCE (MECHANICAL ENGINEERING)
SEMESTER - I (Batch - 2019-21)

1. **Lecture (L):** 1 hour / week / semester,
2. **Practical (P):** 2 hour / week / semester,
3. **Tutorial (T):** 2 hour / week / semester.

TEACHING SCHEME

| Course Code | Course Name | Teaching Hours | | | SSH | Credits | Audit course | CIE | PSEE | Remarks if any |
|--------------|----------------------------------|--------------------------------|----------|-----------|-----------|-----------|--------------|-----|------|----------------------------|
| | | Theory | Tutorial | Practical | | | | | | |
| RM103 | Research Methodology and IPR | 3 | 0 | 0 | 1 | 3 | N | Y | N | |
| TH111 | Applied Thermodynamics | 4 | 0 | 0 | 2 | 4 | N | Y | N | |
| TH113 | Advanced Heat and Mass Transfer | 3 | 2 | 0 | 2 | 4 | N | Y | N | |
| TH116 | Advanced Gas Dynamics | 3 | 0 | 0 | 2 | 3 | N | Y | N | |
| TH117 | Advanced Fluid Dynamics | 3 | 2 | 0 | 2 | 4 | N | Y | N | |
| TH118 | Thermal Simulation Using LabVIEW | 1 | 0 | 2 | 1 | 2 | N | Y | Y | |
| TH9XX | Elective - I | 3 | 0 | 2 | 3 | 4 | N | Y | Y | Any One Offered Elect. - I |
| PG101 | Software Lab - I | 0 | 0 | 2 | 3 | 1 | N | Y | Y | |
| TOTAL | | 20 | 4 | 6 | 16 | 25 | | | | |
| | | Total Teaching Hours 30 | | | | | | | | |

N- No CIE – Continuous internal evaluation

Y – Yes PSEE – Practical semester end examination including ITD, Dissertation, Industrial project, Industrial training etc.

SSH - Self-study hours

HOD

Director



SYLLABUS

SCHOOL OF ENGINEERING
ACADEMIC YEAR - 2019-20
DEFINATION OF ONE CREDIT:

PROGRAM: M. TECH - THERMAL SCIENCE (MECHANICAL ENGINEERING)
SEMESTER - II (Batch - 2019-21)

1. **Lecture (L):** 1 hour / week / semester,
2. **Practical (P):** 2 hour / week / semester,
3. **Tutorial (T):** 2 hour / week / semester.

TEACHING SCHEME

| Course Code | Course Name | Teaching Hours | | | SSH | Credits | Audit course | CIE | PSEE | Remarks if any |
|-------------|---|--------------------------------|----------|-----------|-----------|-----------|--------------|-----|------|----------------------------------|
| | | Theory | Tutorial | Practical | | | | | | |
| TH216 | Advanced Refrigeration and Air-Conditioning Systems | 3 | 0 | 2 | 2 | 4 | N | Y | Y | |
| TH217 | Acoustics and Noise Control | 3 | 0 | 0 | 3 | 3 | N | Y | N | |
| TH218 | Computational Fluid Dynamics | 3 | 0 | 2 | 3 | 4 | N | Y | Y | |
| TH219 | Advanced Thermal Power Plant Engineering | 2 | 0 | 2 | 2 | 3 | N | Y | Y | |
| TH220 | Design of Heat Exchange Equipments | 3 | 0 | 2 | 2 | 4 | N | Y | Y | |
| TH9YY | Elective – II | 4 | 0 | 2 | 3 | 5 | N | Y | Y | Any One Offered Dept. Elect. - I |
| PG201 | Software Lab - II | 0 | 0 | 2 | 3 | 1 | N | Y | Y | |
| | TOTAL | 18 | 0 | 12 | 18 | 24 | | | | |
| | | Total Teaching Hours 30 | | | | | | | | |

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SSH - Self-study hours

HOD

Director



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SCHOOL OF ENGINEERING
ACADEMIC YEAR - 2019-20
DEFINITION OF ONE CREDIT:

PROGRAM: M. TECH - THERMAL SCIENCE (MECHANICAL ENGINEERING)
SEMESTER - III (Batch - 2018-20)

1. **Lecture (L):** 1 hour / week / semester,
2. **Practical (P):** 2 hour / week / semester,
3. **Tutorial (T):** 2 hour / week / semester.

TEACHING SCHEME

| Course Code | Course Name | Teaching Hours | | | SSH | Cre dits | Audit course | CIE | PSEE | Remarks if any |
|--------------|----------------------|--------------------------------|----------|-----------|-----------|-----------|--------------|-----|------|----------------|
| | | Theory | Tutorial | Practical | | | | | | |
| TH301 | Seminar | - | - | - | 3 | 5 | N | Y | Y | |
| THDP1 | Dissertation Phase-I | - | - | - | 20 | 20 | N | Y | Y | |
| TOTAL | | - | - | - | 23 | 25 | | | | |
| | | Total Teaching Hours -- | | | | | | | | |

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SSH - Self-study hours

HOD

Director



SYLLABUS

SCHOOL OF ENGINEERING
ACADEMIC YEAR - 2019-20

PROGRAM: M. TECH - THERMAL SCIENCE (MECHANICAL ENGINEERING)
SEMESTER - IV (Batch - 2018-20)

DEFINITION OF ONE CREDIT:

1. **Lecture (L):** 1 hour / week / semester,
2. **Practical (P):** 2 hour / week / semester,
3. **Tutorial (T):** 2 hour / week / semester.

TEACHING SCHEME

| Course Code | Course Name | Teaching Hours | | | SSH | Credits | Audit course | CIE | PSEE | Remarks if any |
|-------------|-----------------------|--------------------------------|----------|-----------|-----------|-----------|--------------|-----|------|----------------|
| | | Theory | Tutorial | Practical | | | | | | |
| THDP2 | Dissertation Phase-II | - | - | - | 20 | 25 | N | Y | Y | |
| | TOTAL | - | - | - | 20 | 25 | | | | |
| | | Total Teaching Hours -- | | | | | | | | |

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CIE – Continuous internal evaluation

Y – Yes

PSEE – Practical semester end examination including ITD, Dissertation, Industrial project, Industrial training etc.

SSH - Self-study hours

HOD

Director

| | |
|----------------------|--------------------------------|
| Course Title | DISSERTATION PHASE - II |
| Course Code | THDP2 |
| Course Credit | Lecture : 00 |
| | Practical : 25 |
| | Tutorial : 00 |
| | Total : 25 |

Course Learning Outcomes

At the end of the course the students will be able to

- **Plan** the research work according to the literature survey made earlier.
- **Evaluate** alternative system designs, methodologies or algorithms.
- **Apply** theorems or theories which expand the body of knowledge in design engineering and furnish a basis for the development of methodologies or algorithms
- **Write** reports & research papers and Express their work by audio/visual presentation.

Guide Line:

Major Project Part II is a continuation of the work done by the student during semester III. The student is required to submit thesis as a partial fulfillment of the M. Tech degree. The thesis should consist of detailed study of the problem under taken, concluding remarks and scope of future work, if any.

The project report (thesis) is expected to show clarity of thought and expression, critical page appreciation of the existing literature and analytical, computational and experimental aptitude of the student.

Publication of at least one research paper is compulsory in reputed conference/journal.