

## YALOVA ÜNİVERSİTESİ

## 2025-2026 EĞİTİM ÖĞRETİM DERS PLANI



ENSTİTÜ: LİSANSÜSTÜ EĞİTİM ENSTİTÜSÜ

EABD: POLİMER MALZEME MÜHENDİSLİĞİ

BİLİM DALI ve PROGRAM: POLİMER MALZEME MÜHENDİSLİĞİ TEZLİ YÜKSEK LİSANS PROGRAMI

| I. YARIYIL/GÜZ                                            |                                          |                |   |         |      | II. YARIYIL BAHAR |                                                               |                |   |         |      |
|-----------------------------------------------------------|------------------------------------------|----------------|---|---------|------|-------------------|---------------------------------------------------------------|----------------|---|---------|------|
| KODU                                                      | DERSİN ADI                               | Haf.Ders Saati |   | Kredisi | AKTS | KODU              | DERSİN ADI                                                    | Haf.Ders Saati |   | Kredisi | AKTS |
|                                                           |                                          | T              | U |         |      |                   |                                                               | T              | U |         |      |
| PLM542                                                    | Polimer Bilimi ve Teknolojisi            | 3              | 0 | 3       | 6    | PLM590            | Bilimsel Araştırma Teknikleri ve Yayın Etiği                  | 2              | 0 | 2       | 6    |
| PLM5XX                                                    | Seçmeli Ders                             | 3              | 0 | 3       | 6    | PLM5XX            | Seçmeli Ders                                                  | 3              | 0 | 3       | 6    |
| PLM5XX                                                    | Seçmeli Ders                             | 3              | 0 | 3       | 6    | PLM5XX            | Seçmeli Ders                                                  | 3              | 0 | 3       | 6    |
| PLM5XX                                                    | Seçmeli Ders                             | 3              | 0 | 3       | 6    | LEE526            | Seminer                                                       | 0              | 2 | 0       | 6    |
| LEE800                                                    | Uzmanlık Alan Dersi                      | 4              | 0 | 0       | 6    | LEE800            | Uzmanlık Alan Dersi                                           | 4              | 0 | 0       | 6    |
| Toplam Kredi                                              |                                          | 16             | 0 | 12      | 30   | Toplam Kredi      |                                                               | 12             | 2 | 8       | 30   |
| III. YARIYIL/GÜZ                                          |                                          |                |   |         |      | IV. YARIYIL BAHAR |                                                               |                |   |         |      |
| KODU                                                      | DERSİN ADI                               | Haf.Ders Saati |   | Kredisi | AKTS | KODU              | DERSİN ADI                                                    | Haf.Ders Saati |   | Kredisi | AKTS |
|                                                           |                                          | T              | U |         |      |                   |                                                               | T              | U |         |      |
| LEE500                                                    | Tez Çalışması                            | 0              | 0 | 0       | 24   | LEE500            | Tez Çalışması                                                 | 0              | 0 | 0       | 24   |
| LEE800                                                    | Uzmanlık Alan Dersi                      | 4              | 0 | 0       | 6    | LEE800            | Uzmanlık Alan Dersi                                           | 4              | 0 | 0       | 6    |
| Toplam Kredi                                              |                                          | 4              | 0 | 0       | 30   | Toplam Kredi      |                                                               | 4              | 0 | 0       | 30   |
| POLİMER MALZEME MÜHENDİSLİĞİ EABD SEÇMELİ DERSLER LİSTESİ |                                          |                |   |         |      |                   |                                                               |                |   |         |      |
| KODU                                                      | DERSİN ADI                               | Haf.Ders Saati |   | Kredi   | AKTS | KODU              | DERSİN ADI                                                    | Haf.Ders Saati |   | Kredi   | AKTS |
|                                                           |                                          | T              | U |         |      |                   |                                                               | T              | U |         |      |
| PLM501                                                    | Polimer Mühendisliği                     | 3              | 0 | 3       | 6    | PLM528            | Polimerik Lifter                                              | 3              | 0 | 3       | 6    |
| PLM502                                                    | Polimerlerin Şekillendirilmesi           | 3              | 0 | 3       | 6    | PLM529            | İleri İstatistiksel Yöntemler                                 | 3              | 0 | 3       | 6    |
| PLM504                                                    | İletken Polimerler                       | 3              | 0 | 3       | 6    | PLM530            | Endüstriyel Yapıştırıcılar                                    | 3              | 0 | 3       | 6    |
| PLM505                                                    | Polimerlerin Isıl ve Mekanik Özellikleri | 3              | 0 | 3       | 6    | PLM533            | Polimer Esaslı Dokusuz Yüzeyler                               | 3              | 0 | 3       | 6    |
| PLM506                                                    | Biyomalzemeler                           | 3              | 0 | 3       | 6    | PLM534            | İleri Polimerik Ürün Tasarımı                                 | 3              | 0 | 3       | 6    |
| PLM507                                                    | Polimerlerin Karakterizasyonu            | 3              | 0 | 3       | 6    | PLM536            | Tasarımdan Üretime Proses Seçimi                              | 3              | 0 | 3       | 6    |
| PLM508                                                    | Polimerlerin Sentezi                     | 3              | 0 | 3       | 6    | PLM537            | Hasar Analizi                                                 | 3              | 0 | 3       | 6    |
| PLM511                                                    | Yüksek Performanslı Polimerler           | 3              | 0 | 3       | 6    | PLM538            | Otomotiv Uygulamalarında Yaygın Kullanılan Plastik Malzemeler | 3              | 0 | 3       | 6    |
| PLM512                                                    | İleri Polimer Kompozitler                | 3              | 0 | 3       | 6    | PLM539            | Polimerlerin Yapısı ve Reolojisi                              | 3              | 0 | 3       | 6    |
| PLM516                                                    | Reaktif Ekstrüzyon                       | 3              | 0 | 3       | 6    | PLM540            | Teknoloji Tasarım Ar-Ge ve Inovasyon                          | 3              | 0 | 3       | 6    |
| PLM520                                                    | Polimerik Jeller ve Uygulamaları         | 3              | 0 | 3       | 6    | PLM541            | Akıllı Polimerik Malzemeler                                   | 3              | 0 | 3       | 6    |
| PLM522                                                    | Kolloidal Polimerler                     | 3              | 0 | 3       | 6    | PLM 544           | Biyo-Nanoteknolojik Yaklaşımlarla Sürdürülebilir Polimerler   | 3              | 0 | 3       | 6    |
| PLM523                                                    | Polimerik Membranlar                     | 3              | 0 | 3       | 6    | PLM 543           | Reaktör Tasarımı ve Polimerizasyon Prosesleri                 | 3              | 0 | 3       | 6    |
| PLM524                                                    | Polimer Teknolojisinde Katkı Maddeleri   | 3              | 0 | 3       | 6    | PLM591            | Mühendislik Matematiği                                        | 3              | 0 | 3       | 6    |
| PLM526                                                    | Biyobozunur Polimerler ve Uygulamaları   | 3              | 0 | 3       | 6    |                   |                                                               |                |   |         |      |



# YALOVA UNIVERSITY

## 2025-2026 ACADEMIC SYLLABUS

INSTITUTE: INSTITUTE OF GRADUATE STUDIES

EABD : POLYMER MATERIALS ENGINEERING

PROGRAM : POLYMER MATERIALS ENGINEERING (M.S)

| I. SEMESTER (FALL) |                                |          |   |        |      | II.SEMESTER (SPRING) |                                                       |          |   |        |      |
|--------------------|--------------------------------|----------|---|--------|------|----------------------|-------------------------------------------------------|----------|---|--------|------|
| CODE               | COURSE NAME                    | Hrs/week |   | Credit | ECTS | CODE                 | COURSE NAME                                           | Hrs/week |   | Credit | ECTS |
|                    |                                | T        | P |        |      |                      |                                                       | T        | P |        |      |
| PLM5XX             | Polymer Science and Technology | 3        | 0 | 3      | 6    | PLM590               | Scientific Research Techniques and Publication Ethics | 2        | 0 | 2      | 6    |
| PLM5XX             | Elective Course                | 3        | 0 | 3      | 6    | PLM5XX               | Elective Course                                       | 3        | 0 | 3      | 6    |
| PLM5XX             | Elective Course                | 3        | 0 | 3      | 6    | PLM5XX               | Elective Course                                       | 3        | 0 | 3      | 6    |
| PLM5XX             | Elective Course                | 3        | 0 | 3      | 6    | LEE526               | Seminar                                               | 0        | 2 | 0      | 6    |
| LEE800             | Specialization Field Course    | 4        | 0 | 0      | 6    | LEE800               | Specialization Field Course                           | 4        | 0 | 0      | 6    |
| Total              |                                | 16       | 0 | 12     | 30   | Total                |                                                       | 12       | 2 | 8      | 30   |

| III. SEMESTER (FALL) |                             |          |   |        |      | IV.SEMESTER (SPRING) |                             |          |   |        |      |
|----------------------|-----------------------------|----------|---|--------|------|----------------------|-----------------------------|----------|---|--------|------|
| CODE                 | COURSE NAME                 | Hrs/week |   | Credit | ECTS | CODE                 | COURSE NAME                 | Hrs/week |   | Credit | ECTS |
|                      |                             | T        | P |        |      |                      |                             | T        | P |        |      |
| LEE500               | Thesis Study                | 0        | 0 | 0      | 24   | LEE500               | Thesis Study                | 0        | 0 | 0      | 24   |
| LEE800               | Specialization Field Course | 4        | 0 | 0      | 6    | LEE800               | Specialization Field Course | 4        | 0 | 0      | 6    |
| Total                |                             | 4        | 0 | 0      | 30   | Total                |                             | 4        | 0 | 0      | 30   |
|                      |                             |          |   |        |      |                      |                             |          |   |        |      |

### POLYMER MATERIALS ENGINEERING ELECTIVE COURSES LIST

| CODE   | COURSE NAME                                   | Hrs/week |   | Credit | ECTS | CODE   | COURSE NAME                                                   | Hrs/week |   | Credit | ECTS |
|--------|-----------------------------------------------|----------|---|--------|------|--------|---------------------------------------------------------------|----------|---|--------|------|
|        |                                               | T        | P |        |      |        |                                                               | T        | P |        |      |
| PLM501 | Polymer Engineering                           | 3        | 0 | 3      | 6    | PLM511 | High Performance Polymers                                     | 3        | 0 | 3      | 6    |
| PLM502 | Polymer Processing                            | 3        | 0 | 3      | 6    | PLM512 | Advanced Polymer Composites                                   | 3        | 0 | 3      | 6    |
| PLM591 | Engineering Mathematics                       | 3        | 0 | 3      | 6    | PLM533 | Polymer Based Nonwovens                                       | 3        | 0 | 3      | 6    |
| PLM504 | Conducting Polymers                           | 3        | 0 | 3      | 6    | PLM516 | Reactive Extrusion                                            | 3        | 0 | 3      | 6    |
| PLM505 | Thermal and Mechanical Properties of Polymers | 3        | 0 | 3      | 6    | PLM522 | Colloidal Polymers                                            | 3        | 0 | 3      | 6    |
| PLM506 | Biomaterials                                  | 3        | 0 | 3      | 6    | PLM524 | Additives in Polymer Technology                               | 3        | 0 | 3      | 6    |
| PLM507 | Polymer Characterization                      | 3        | 0 | 3      | 6    | PLM528 | Polymeric Fibers                                              | 3        | 0 | 3      | 6    |
| PLM508 | Synthesis of Polymers                         | 3        | 0 | 3      | 6    | PLM534 | Advanced Polymeric Product Design                             | 3        | 0 | 3      | 6    |
| PLM523 | Polymeric Membranes                           | 3        | 0 | 3      | 6    | PLM538 | Commonly Used Plastic Materials in Automotive Applications    | 3        | 0 | 3      | 6    |
| PLM526 | Biodegradable Polymers and Applications       | 3        | 0 | 3      | 6    | PLM536 | Process Selection from Design to Production                   | 3        | 0 | 3      | 6    |
| PLM520 | Polymeric Gels and Applications               | 3        | 0 | 3      | 6    | PLM539 | Structure and Rheology of Polymers                            | 3        | 0 | 3      | 6    |
| PLM530 | Industrial Adhesives                          | 3        | 0 | 3      | 6    | PLM540 | Technology Design R&D and Innovation                          | 3        | 0 | 3      | 6    |
| PLM537 | Failure Analysis                              | 3        | 0 | 3      | 6    | PLM541 | Smart Polymeric Materials                                     | 3        | 0 | 3      | 6    |
| PLM529 | Advanced Statistical Methods                  | 3        | 0 | 3      | 6    | PLM544 | Sustainable Polymers through Bio-Nanotechnological Approaches | 3        | 0 | 3      | 6    |
|        |                                               |          |   |        |      | PLM543 | Reactor Design and Polymerization Processes                   | 3        | 0 | 3      | 6    |



# YALOVA ÜNİVERSİTESİ

## 2025-2026 EĞİTİM ÖĞRETİM DERS PLANI

ENSTİTÜ: LİSANSÜSTÜ EĞİTİM ENSTİTÜSÜ

EABD: POLİMER MALZEME MÜHENDİSLİĞİ

BİLİM DALI ve PROGRAM: POLİMER MALZEME MÜHENDİSLİĞİ TEZSİZ YÜKSEK LİSANS PROGRAMI

| I. YARIYIL/GÜZ |                                          |          |   |         |      | II. YARIYIL/BAHAR |                                              |          |   |       |      |
|----------------|------------------------------------------|----------|---|---------|------|-------------------|----------------------------------------------|----------|---|-------|------|
| KODU           | DERSİN ADI                               | Haf.Ders |   | Kredisi | AKTS | KODU              | DERSİN ADI                                   | Haf.Ders |   | Kredi | AKTS |
|                |                                          | T        | U |         |      |                   |                                              | T        | U |       |      |
| PLM505TZ       | Polimerlerin Isıl ve Mekanik Özellikleri | 3        | 0 | 3       | 6    | PLM502TZ          | Polimer İşleme Teknikleri                    | 3        | 0 | 3     | 6    |
| PLM513TZ       | Polimerlerin Yapısı ve Özellikleri       | 3        | 0 | 3       | 6    | PLM590TZ          | Bilimsel Araştırma Teknikleri ve Yayın Etiği | 3        | 0 | 3     | 6    |
| PLM5XXTZ       | Seçmeli Ders                             | 3        | 0 | 3       | 6    | PLM5XXTZ          | Seçmeli Ders                                 | 3        | 0 | 3     | 6    |
| PLM5XXTZ       | Seçmeli Ders                             | 3        | 0 | 3       | 6    | PLM5XXTZ          | Seçmeli Ders                                 | 3        | 0 | 3     | 6    |
| PLM5XXTZ       | Seçmeli Ders                             | 3        | 0 | 3       | 6    | PLM5XXTZ          | Seçmeli Ders                                 | 3        | 0 | 3     | 6    |
| Toplam Kredi   |                                          | 15       | 0 | 15      | 30   | Toplam Kredi      |                                              | 15       | 0 | 15    | 30   |

| III. YARIYIL/GÜZ |               |                |   |      |
|------------------|---------------|----------------|---|------|
| KODU             | DERSİN ADI    | Haf.Ders Saati |   | AKTS |
|                  |               | T              | U |      |
| LEE500TZ         | Dönem Projesi | 0              | 2 | 6    |
| Toplam Kredi     |               |                |   |      |



| POLİMER MALZEME MÜHENDİSLİĞİ EABD SEÇMELİ DERSLER LİSTESİ (TEZSİZ) |                                |          |   |       |      |          |                                                 |          |   |       |      |
|--------------------------------------------------------------------|--------------------------------|----------|---|-------|------|----------|-------------------------------------------------|----------|---|-------|------|
| KODU                                                               | DERSİN ADI                     | Haf.Ders |   | Kredi | AKTS | KODU     | DERSİN ADI                                      | Haf.Ders |   | Kredi | AKTS |
|                                                                    |                                | T        | U |       |      |          |                                                 | T        | U |       |      |
| PLM507TZ                                                           | Polimerlerin Karakterizasyonu  | 3        | 0 | 3     | 6    | PLM517TZ | Termoset Mühendislik Reçineleri                 | 3        | 0 | 3     | 6    |
| PLM508TZ                                                           | Polimerlerin Sentezi           | 3        | 0 | 3     | 6    | PLM518TZ | İleri Polimerik Kaplamalar                      | 3        | 0 | 3     | 6    |
| PLM510TZ                                                           | İleri Fonksiyonel Polimerler   | 3        | 0 | 3     | 6    | PLM519TZ | Polimer Endüstrisinde Kalite Yönetim Sistemleri | 3        | 0 | 3     | 6    |
| PLM512TZ                                                           | İleri Polimer Kompozitler      | 3        | 0 | 3     | 6    | PLM520TZ | Polimerik Jeller ve Uygulamaları                | 3        | 0 | 3     | 6    |
| PLM515TZ                                                           | İleri Endüstriyel Elastomerler | 3        | 0 | 3     | 6    | PLM526TZ | Biyobozunur Polimerler ve Uygulamaları          | 3        | 0 | 3     | 6    |
| PLM528TZ                                                           | Polimerik Lifter               | 3        | 0 | 3     | 6    | PLM532TZ | Polimer Esaslı Dokusuz Yüzeyler                 | 3        | 0 | 3     | 6    |
| PLM531TZ                                                           | İleri Polimerik Ürün Tasarımı  | 3        | 0 | 3     | 6    | PLM529TZ | Termoplastik Elastomerlerin Uygulamaları        | 3        | 0 | 3     | 6    |
| PLM527TZ                                                           | Polimer Esaslı Filmler         | 3        | 0 | 3     | 6    | PLM530TZ | Polimer Teknolojisinde Katkı Maddeleri          | 3        | 0 | 3     | 6    |



# YALOVA UNIVERSITY

## 2025-2026 ACADEMIC SYLLABUS

INSTITUTE: Institute of Science and Engineering

EABD : Polymer Engineering

PROGRAM : Polymer Engineering (M.S) without Thesis

| I. SEMESTER (FALL) |                                               |          |   |        |      | II. SEMESTER (SPRING) |                                                       |          |   |        |      |
|--------------------|-----------------------------------------------|----------|---|--------|------|-----------------------|-------------------------------------------------------|----------|---|--------|------|
| CODE               | COURSE NAME                                   | Hrs/week |   | Credit | ECTS | CODE                  | COURSE NAME                                           | Hrs/week |   | Credit | ECTS |
|                    |                                               | T        | P |        |      |                       |                                                       | T        | P |        |      |
| PLM505TZ           | Thermal and Mechanical Properties of Polymers | 3        | 0 | 3      | 6    | PLM502TZ              | Polymer Processing Techniques                         | 3        | 0 | 3      | 6    |
| PLM513TZ           | Polymer Structures and Properties             | 3        | 0 | 3      | 6    | PLM590TZ              | Scientific Research Techniques and Publication Ethics | 3        | 0 | 3      | 6    |
| PLM5XXTZ           | Elective Course                               | 3        | 0 | 3      | 6    | PLM5XXTZ              | Elective Course                                       | 3        | 0 | 3      | 6    |
| PLM5XXTZ           | Elective Course                               | 3        | 0 | 3      | 6    | PLM5XXTZ              | Elective Course                                       | 3        | 0 | 3      | 6    |
| PLM5XXTZ           | Elective Course                               | 3        | 0 | 3      | 6    | PLM5XXTZ              | Elective Course                                       | 3        | 0 | 3      | 6    |
| Total              |                                               | 15       | 0 | 15     | 30   | Total                 |                                                       | 15       | 0 | 15     | 30   |

| III. SEMESTER (FALL) |             |          |   |        |      |
|----------------------|-------------|----------|---|--------|------|
| CODE                 | COURSE NAME | Hrs/week |   | Credit | ECTS |
|                      |             | T        | P |        |      |
| LEE500TZ             | Project     | 0        | 2 | 0      | 6    |
| Total                |             |          |   |        |      |

| ELECTIVE COURSES |                                   |          |   |        |      |          |                                          |          |   |        |      |
|------------------|-----------------------------------|----------|---|--------|------|----------|------------------------------------------|----------|---|--------|------|
| CODE             | COURSE NAME                       | Hrs/week |   | Credit | ECTS | CODE     | COURSE NAME                              | Hrs/week |   | Credit | ECTS |
|                  |                                   | T        | P |        |      |          |                                          | T        | P |        |      |
| PLM507TZ         | Polymer Characterization          | 3        | 0 | 3      | 6    | PLM517TZ | Thermoset Engineering Resins             | 3        | 0 | 3      | 6    |
| PLM508TZ         | Synthesis of Polymers             | 3        | 0 | 3      | 6    | PLM518TZ | Advanced Polymer Coatings                | 3        | 0 | 3      | 6    |
| PLM510TZ         | Advanced Functional Polymers      | 3        | 0 | 3      | 6    | PLM519TZ | Quality Management in Polymer Industry   | 3        | 0 | 3      | 6    |
| PLM512TZ         | Advanced Polymer Composites       | 3        | 0 | 3      | 6    | PLM520TZ | Polymeric Gels and Its Applications      | 3        | 0 | 3      | 6    |
| PLM515TZ         | Advanced Industrial Elastomers    | 3        | 0 | 3      | 6    | PLM526TZ | Biodegradable Polymers and Applications  | 3        | 0 | 3      | 6    |
| PLM528TZ         | Polymeric Fibers                  | 3        | 0 | 3      | 6    | PLM532TZ | Polymer Based Nonwovens                  | 3        | 0 | 3      | 6    |
| PLM531TZ         | Advanced Polymeric Product Design | 3        | 0 | 3      | 6    | PLM529TZ | Applications of Thermoplastic Elastomers | 3        | 0 | 3      | 6    |
| PLM527TZ         | Polymer Based Films               | 3        | 0 | 3      | 6    | PLM530TZ | Additives in Polymer Technology          | 3        | 0 | 3      | 6    |



# YALOVA ÜNİVERSİTESİ

## 2025-2026 EĞİTİM ÖĞRETİM DERS PLANI

ENSTİTÜ: LİSANSÜSTÜ EĞİTİM ENSTİTÜSÜ

EABD: POLİMER MALZEME MÜHENDİSLİĞİ

BİLİM DALI ve PROGRAM: POLİMER MALZEME MÜHENDİSLİĞİ DOKTORA PROGRAMI

| I.YARIYIL/GÜZ |                     |          |   |         | II.YARIYIL/BAHAR |              |                     |          |   |       |      |
|---------------|---------------------|----------|---|---------|------------------|--------------|---------------------|----------|---|-------|------|
| KODU          | DERSİN ADI          | Haf.Ders |   | Kredisi | AKTS             | KODU         | DERSİN ADI          | Haf.Ders |   | Kredi | AKTS |
|               |                     | T        | U |         |                  |              |                     | T        | U |       |      |
| PLM6XX        | Seçmeli Ders        | 3        | 0 | 3       | 6                | PLM6XX       | Seçmeli Ders        | 3        | 0 | 3     | 6    |
| PLM6XX        | Seçmeli Ders        | 3        | 0 | 3       | 6                | PLM6XX       | Seçmeli Ders        | 3        | 0 | 3     | 6    |
| PLM6XX        | Seçmeli Ders        | 3        | 0 | 3       | 6                | PLM6XX       | Seçmeli Ders        | 3        | 0 | 3     | 6    |
| PLM6XX        | Seçmeli Ders        | 3        | 0 | 3       | 6                | LEE626       | Seminer             | 0        | 2 | 0     | 6    |
| LEE900        | Uzmanlık Alan Dersi | 4        | 0 | 0       | 6                | LEE900       | Uzmanlık Alan Dersi | 4        | 0 | 0     | 6    |
| Toplam Kredi  |                     | 16       | 0 | 12      | 30               | Toplam Kredi |                     | 13       | 2 | 9     | 30   |

| III.YARIYIL/GÜZ |                     |          |   |         | IV.YARIYIL/BAHAR |              |                     |          |   |       |      |
|-----------------|---------------------|----------|---|---------|------------------|--------------|---------------------|----------|---|-------|------|
| KODU            | DERSİN ADI          | Haf.Ders |   | Kredisi | AKTS             | KODU         | DERSİN ADI          | Haf.Ders |   | Kredi | AKTS |
|                 |                     | T        | U |         |                  |              |                     | T        | U |       |      |
| YET651          | Yeterlik            | 0        | 0 | 0       | 24               | LEE600       | Tez Çalışması       | 0        | 0 | 0     | 24   |
| LEE900          | Uzmanlık Alan Dersi | 4        | 0 | 0       | 6                | LEE900       | Uzmanlık Alan Dersi | 4        | 0 | 0     | 6    |
| Toplam Kredi    |                     | 4        | 0 | 0       | 30               | Toplam Kredi |                     | 4        | 0 | 0     | 30   |

| V.YARIYIL/GÜZ |                     |          |   |         |      | VI.YARIYIL/BAHAR |                     |          |   |       |      |
|---------------|---------------------|----------|---|---------|------|------------------|---------------------|----------|---|-------|------|
| KODU          | DERSİN ADI          | Haf.Ders |   | Kredisi | AKTS | KODU             | DERSİN ADI          | Haf.Ders |   | Kredi | AKTS |
|               |                     | T        | U |         |      |                  |                     | T        | U |       |      |
| LEE600        | Tez Çalışması       | 0        | 0 | 0       | 24   | LEE600           | Tez Çalışması       | 0        | 0 | 0     | 24   |
| LEE900        | Uzmanlık Alan Dersi | 4        | 0 | 0       | 6    | LEE900           | Uzmanlık Alan Dersi | 4        | 0 | 0     | 6    |
| Toplam Kredi  |                     | 4        | 0 | 0       | 30   | Toplam Kredi     |                     | 4        | 0 | 0     | 30   |

| VII.YARIYIL/GÜZ |                     |          |   |         |      | VIII.YARIYIL/BAHAR |                     |          |   |       |      |
|-----------------|---------------------|----------|---|---------|------|--------------------|---------------------|----------|---|-------|------|
| KODU            | DERSİN ADI          | Haf.Ders |   | Kredisi | AKTS | KODU               | DERSİN ADI          | Haf.Ders |   | Kredi | AKTS |
|                 |                     | T        | U |         |      |                    |                     | T        | U |       |      |
| LEE600          | Tez Çalışması       | 0        | 0 | 0       | 24   | LEE600             | Tez Çalışması       | 0        | 0 | 0     | 24   |
| LEE900          | Uzmanlık Alan Dersi | 4        | 0 | 0       | 6    | LEE900             | Uzmanlık Alan Dersi | 4        | 0 | 0     | 6    |
| Toplam Kredi    |                     | 4        | 0 | 0       | 30   | Toplam Kredi       |                     | 4        | 0 | 0     | 30   |

| POLİMER MALZEME MÜHENDİSLİĞİ EABD SEÇMELİ DERSLER LİSTESİ |                                              |          |   |       |      |        |                                                                      |          |   |       |      |
|-----------------------------------------------------------|----------------------------------------------|----------|---|-------|------|--------|----------------------------------------------------------------------|----------|---|-------|------|
| KODU                                                      | DERSİN ADI                                   | Haf.Ders |   | Kredi | AKTS | KODU   | DERSİN ADI                                                           | Haf.Ders |   | Kredi | AKTS |
|                                                           |                                              | T        | U |       |      |        |                                                                      | T        | U |       |      |
| PLM 601                                                   | Polimer Reaksiyon Mühendisliği               | 3        | 0 | 3     | 6    | PLM620 | Mikroskobik Görüntüleme Teknikleri                                   | 3        | 0 | 3     | 6    |
| PLM604                                                    | Polimer Nanokompozitler                      | 3        | 0 | 3     | 6    | PLM621 | Polimerlerde Emülsiyon Kalıplama Uygulamaları                        | 3        | 0 | 3     | 6    |
| PLM605                                                    | Yenilenebilir Kaynaklı Polimerler            | 3        | 0 | 3     | 6    | PLM622 | Doku Mühendisliği                                                    | 3        | 0 | 3     | 6    |
| PLM608                                                    | Plastik Katkı Maddeleri                      | 3        | 0 | 3     | 6    | PLM623 | Polimerlerin Elektro Eğirme Yöntemi ile Şekillendirilmesi            | 3        | 0 | 3     | 6    |
| PLM610                                                    | Polimer İşleme ve Modellenmesi               | 3        | 0 | 3     | 6    | PLM624 | Biyoplastiklerin Üretimi, Prosesleri ve Uygulamaları                 | 3        | 0 | 3     | 6    |
| PLM611                                                    | Polimer Elektrolitler                        | 3        | 0 | 3     | 6    | PLM626 | Polimer Esaslı Ambalaj Teknolojisindeki Son Gelişmeler               | 3        | 0 | 3     | 6    |
| PLM612                                                    | Suda Çözünen Doğal ve Sentetik Polimerler    | 3        | 0 | 3     | 6    | PLM627 | Esnek Elektronikler                                                  | 3        | 0 | 3     | 6    |
| PLM613                                                    | Plastiklerde Kaynak İşlemleri                | 3        | 0 | 3     | 6    | PLM628 | Polimer Esaslı Malzeme ve Ürünlerde Tersine Mühendislik Uygulamaları | 3        | 0 | 3     | 6    |
| PLM616                                                    | Enerji Uygulamalarında Kullanılan Polimerler | 3        | 0 | 3     | 6    | PLM629 | Polimerlerde Morfoloji-Mekanik Özellik İlişkisi                      | 3        | 0 | 3     | 6    |
| PLM617                                                    | Polimerik Sensörler                          | 3        | 0 | 3     | 6    |        |                                                                      |          |   |       |      |
| PLM618                                                    | Monomer Üretim Teknolojisi                   | 3        | 0 | 3     | 6    | PLM630 | Havacılık ve Uzay Uygulamalarında Kullanılan Polimerler              | 3        | 0 | 3     | 6    |
| PLM619                                                    | Fotokimyasal Reaksiyonlar ve Uygulamaları    | 3        | 0 | 3     | 6    | PLM631 | Polimerik Malzemelerin Tribolojisi                                   | 3        | 0 | 3     | 6    |



# YALOVA UNIVERSITY

## 2025-2026 ACADEMIC SYLLABUS

INSTITUTE: INSTITUTE OF GRADUATE STUDIES

EABD : POLYMER MATERIALS ENGINEERING

PROGRAM : POLYMER MATERIALS ENGINEERING (Ph.D)

| I. SEMESTER (FALL) |                             |          |   |        |      | II.SEMESTER (SPRING) |                             |          |   |        |      |
|--------------------|-----------------------------|----------|---|--------|------|----------------------|-----------------------------|----------|---|--------|------|
| CODE               | COURSE NAME                 | Hrs/week |   | Credit | ECTS | CODE                 | COURSE NAME                 | Hrs/week |   | Credit | ECTS |
|                    |                             | T        | P |        |      |                      |                             | T        | P |        |      |
| PLM6XX             | Elective Course             | 3        | 0 | 3      | 6    | PLM6XX               | Elective Course             | 3        | 0 | 3      | 6    |
| PLM6XX             | Elective Course             | 3        | 0 | 3      | 6    | PLM6XX               | Elective Course             | 3        | 0 | 3      | 6    |
| PLM6XX             | Elective Course             | 3        | 0 | 3      | 6    | PLM6XX               | Elective Course             | 3        | 0 | 3      | 6    |
| PLM6XX             | Elective Course             | 3        | 0 | 3      | 6    | LEE626               | Seminar                     | 0        | 2 | 0      | 6    |
| LEE900             | Specialization Field Course | 4        | 0 | 0      | 6    | LEE900               | Specialization Field Course | 4        | 0 | 0      | 6    |
|                    |                             |          |   |        |      |                      |                             |          |   |        |      |
| Total              |                             | 16       | 0 | 12     | 30   | Total                |                             | 13       | 2 | 9      | 30   |

| III. SEMESTER (FALL) |                             |          |   |        |      | IV.SEMESTER (SPRING) |                             |          |   |        |      |
|----------------------|-----------------------------|----------|---|--------|------|----------------------|-----------------------------|----------|---|--------|------|
| CODE                 | COURSE NAME                 | Hrs/week |   | Credit | ECTS | CODE                 | COURSE NAME                 | Hrs/week |   | Credit | ECTS |
|                      |                             | T        | P |        |      |                      |                             | T        | P |        |      |
| YET651               | Qualification               | 0        | 0 | 0      | 24   | LEE600               | Thesis Study                | 0        | 0 | 0      | 24   |
| LEE900               | Specialization Field Course | 4        | 0 | 0      | 6    | LEE900               | Specialization Field Course | 4        | 0 | 0      | 6    |
| Total                |                             | 4        | 0 | 0      | 30   | Total                |                             | 4        | 0 | 0      | 30   |

| V. SEMESTER (FALL) |                             |          |   |        |      | VI.SEMESTER (SPRING) |                             |          |   |        |      |
|--------------------|-----------------------------|----------|---|--------|------|----------------------|-----------------------------|----------|---|--------|------|
| CODE               | COURSE NAME                 | Hrs/week |   | Credit | ECTS | CODE                 | COURSE NAME                 | Hrs/week |   | Credit | ECTS |
|                    |                             | T        | P |        |      |                      |                             | T        | P |        |      |
| LEE600             | Thesis Study                | 0        | 0 | 0      | 24   | LEE600               | Thesis Study                | 0        | 0 | 0      | 24   |
| LEE900             | Specialization Field Course | 4        | 0 | 0      | 6    | LEE900               | Specialization Field Course | 4        | 0 | 0      | 6    |
| Total              |                             | 4        | 0 | 0      | 30   | Total                |                             | 4        | 0 | 0      | 30   |

| VII. SEMESTER (FALL) |                             |          |   |        |      | VIII.SEMESTER (SPRING) |                             |          |   |        |      |
|----------------------|-----------------------------|----------|---|--------|------|------------------------|-----------------------------|----------|---|--------|------|
| CODE                 | COURSE NAME                 | Hrs/week |   | Credit | ECTS | CODE                   | COURSE NAME                 | Hrs/week |   | Credit | ECTS |
|                      |                             | T        | P |        |      |                        |                             | T        | P |        |      |
| LEE600               | Thesis Study                | 0        | 0 | 0      | 24   | LEE600                 | Thesis Study                | 0        | 0 | 0      | 24   |
| LEE900               | Specialization Field Course | 4        | 0 | 0      | 6    | LEE900                 | Specialization Field Course | 4        | 0 | 0      | 6    |
| Total                |                             | 4        | 0 | 0      | 30   | Total                  |                             | 4        | 0 | 0      | 30   |

| ELECTIVE COURSES |                                              |          |   |        |      |        |                                                                          |          |   |        |      |
|------------------|----------------------------------------------|----------|---|--------|------|--------|--------------------------------------------------------------------------|----------|---|--------|------|
| CODE             | COURSE NAME                                  | Hrs/week |   | Credit | ECTS | CODE   | COURSE NAME                                                              | Hrs/week |   | Credit | ECTS |
|                  |                                              | T        | P |        |      |        |                                                                          | T        | P |        |      |
| PLM 601          | Polymer Reaction Engineering                 | 3        | 0 | 3      | 6    | PLM620 | Microscopic Imaging Techniques                                           | 3        | 0 | 3      | 6    |
| PLM604           | Polymeric Nanocomposites                     | 3        | 0 | 3      | 6    | PLM621 | Emulsion Templating Applications in Polymers                             | 3        | 0 | 3      | 6    |
| PLM605           | Polymers from Renewable Resources            | 3        | 0 | 3      | 6    | PLM622 | Tissue Engineering                                                       | 3        | 0 | 3      | 6    |
| PLM608           | Plastic Additives                            | 3        | 0 | 3      | 6    | PLM623 | Electro Spinning of Polymers                                             | 3        | 0 | 3      | 6    |
| PLM610           | Polymer Processing and Modeling              | 3        | 0 | 3      | 6    | PLM624 | Bioplastics: Production, Processes and Applications                      | 3        | 0 | 3      | 6    |
| PLM611           | Polymer Electrolytes                         | 3        | 0 | 3      | 6    | PLM626 | Recent Developments in Polymeric Packaging Technology                    | 3        | 0 | 3      | 6    |
| PLM612           | Water Soluble Natural and Synthetic Polymers | 3        | 0 | 3      | 6    | PLM627 | Flexible Electronics                                                     | 3        | 0 | 3      | 6    |
| PLM613           | Plastics Joining                             | 3        | 0 | 3      | 6    | PLM628 | Reverse Engineering Applications in Polymer Based Materials and Products | 3        | 0 | 3      | 6    |
| PLM616           | Polymers Used for Energy Applications        | 3        | 0 | 3      | 6    | PLM629 | Morphology-Mechanical Property Relationship in Polymers                  | 3        | 0 | 3      | 6    |
| PLM617           | Polymeric Sensors                            | 3        | 0 | 3      | 6    |        |                                                                          |          |   |        |      |
| PLM618           | Monomer Production Technology                | 3        | 0 | 3      | 6    | PLM630 | Polymers Used in Aerospace and Space Applications                        | 3        | 0 | 3      | 6    |
| PLM619           | Photochemical Reactions and Applications     | 3        | 0 | 3      | 6    | PLM631 | Tribology of Polymeric Materials                                         | 3        | 0 | 3      | 6    |