



**PURDUE**  
UNIVERSITY  
Continuing Engineering Education  
Potter Engineering Center, Room 364  
500 Central Drive  
West Lafayette, IN 47907–2022

# APPLIED HEAT TRANSFER

## CERTIFICATE PROGRAM

*Awarded by the Graduate School and  
the School of Mechanical Engineering  
of Purdue University in cooperation with  
Continuing Engineering Education*

**PURDUE**  
UNIVERSITY

### See inside for

- *Benefits of Program*
- *Intended Audience*
- *Answers to Questions*
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### Curriculum Requirements

- 12 credits in heat transfer and related courses (i.e., other related aspects of mechanical engineering). Up to three semester credits can be transferred from another university (effectively, one of four courses); the remainder must be earned at Purdue.
- An average grade of B or higher in the two core courses and an average of B or higher overall are required. If the student receives a lower grade in a course, he/she may repeat it once, or, for elective courses only, substitute another approved elective. This repetition or replacement will be allowed for a maximum of two courses.

### Admission Requirements

- You must have a Bachelor's degree in an appropriate area (Engineering, Science, Mathematics, Technology) with GPA of 3.0 or higher.
- Note: Acceptance into the Certificate program does NOT assure admission to the Graduate School of Purdue University to pursue an advanced degree.

### Course Curriculum

All courses are three semester credits and are taught by the graduate Faculty of Purdue University.

#### Required

ME 505: Intermediate Heat Transfer

*And one of the following:*

ME 509: Intermediate Fluid Mechanics

ME 582: Thermal Stress Analysis

ME 597G: Heat Transfer in Electronic Systems

ME 608: Numerical Methods in Heat & Mass Transfer

#### Electives

The student must choose two elective courses from those listed above and below. Only one math course is allowed.

ME 500: Thermodynamics

ME 506: Two-Phase Flow & Heat Transfer\*

ME 507: Laser Processing\*

ME 510: Gas Dynamics

ME 513: Engineering Acoustics

ME 518: Analysis of Thermal Systems\*

ME 525: Combustion

MA 527: Advanced Mathematics for Engineers & Physicists I

MA 528: Advanced Mathematics for Engineers & Physicists II

ME 563: Mechanical Vibrations

ME 581: Numerical Methods in Mechanical Engineering

ME 605: Convection of Heat & Mass

ME 614: Computational Fluid Dynamics  
(cannot be used if ME 608 was taken)

\*Courses presently offered only on West Lafayette Campus

Certificate in Applied Heat Transfer

This certificate program, sponsored by the Graduate School and the School of Mechanical Engineering, in cooperation with Continuing Engineering Education at Purdue University, is designed to help you become knowledgeable about the area of heat transfer. The certificate you earn will serve as evidence that you have achieved a significant level of expertise in Applied Heat Transfer.

Benefits of the Program

- Enhance your understanding of applied heat transfer processes and technologies and their applications in industry.
- Strengthen your analytical skills and the ability to handle complex interdisciplinary problems.
- Equip yourself with tools that will improve your ability to solve realistic multi-mode problems with a comprehensive approach.

Intended Audience

- This certificate program meets the needs of
- mid-career and late-career engineers
  - engineers new to the area of applied heat transfer
  - engineering managers who need a background in applied heat transfer and its implementation in emerging technologies.

Answers to questions you may have about the certificate

How do I apply for the certificate?

Complete the Purdue University Graduate School application form for studies at West Lafayette (Main Campus). In the enrollment objectives, state “Certificate Program,” and in the item on specification of subject area, indicate “Graduate Certificate in Applied Heat Transfer.” The Mechanical Engineering Graduate Office will process the application for admission into the Certificate Program. A “worksheet” will be created and made available to the student to keep track of the courses he/she takes and the grades earned.

Alternatively, complete the attached “Notice of Interest.” When CEE receives the notice, they will send you contact information for ME and the CEE Graduate Advance Planning Schedule. CEE will send a copy of the notice to the ME Graduate Administrator while indicating the need to apply to the Graduate School.

How long do I have to complete the certificate?

All courses must be taken within a four-year time span. Students set their own pace for completion. However, note that the courses in the certificate program are not televised every semester, so you will want to refer to the CEE Graduate Advance Planning Schedule to determine when the courses will be offered. The four-year time frame is defined by the first and last classes you take for the certificate.

Do courses taken before I enroll in the certificate program apply?

Yes, if they are applicable to the Graduate Certificate at the time you register for the program, and if they fall within the four-year time limit.

I already have a Master’s or Ph.D. from another school. Can I earn a Purdue certificate in applied heat transfer?

Yes.

How do I receive credit for the course taken elsewhere that I wish to transfer to the certificate program?

To obtain a letter of approval to transfer credit for a course taken elsewhere, send the ME Graduate Office a request together with the catalog description of the course syllabus and an official transcript, showing that you have earned a grade of B or better in the course. Also, clearly indicate whether the course is to be applied to meet requirements towards the required courses or the elective courses.

How do I receive the certificate?

In the semester you register for the last class, send the ME Graduate Administrator the completed worksheet. At the end of the applicable semester and upon receiving the official grade report, the Graduate Chair of Mechanical Engineering will check for the completion of certification requirements. The Graduate School will then be notified and, in turn, will notify the Office of the Registrar. The Office of the Registrar will generate the certificate for you and forward it to your permanent address.

Can I earn both a certificate and an MSE, MS, or MSME degree from Purdue?

Yes. Courses can be counted both for the Certificate and a Master’s degree. However, if you are already enrolled in the Master’s degree program in Mechanical Engineering from Purdue, you are not eligible for the certificate. Note: to be a graduate student in a Master’s program, you must complete a separate application form and be admitted into the Master’s program by the Purdue University Graduate School.

Other questions? Please contact CEE

Phone: 765-494-7015 Local/International  
877-598-4CEE Toll-free, U.S. Only

Email: cee@purdue.edu

https://Engineering.Purdue.edu/Engr/CEE

Notice of Interest

Certificate Program in Applied Heat Transfer

- ☐ I am interested in receiving the information packet for the Certificate Program in Applied Heat Transfer.

Name \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone (Home) \_\_\_\_\_

Phone (Work) \_\_\_\_\_

E-mail \_\_\_\_\_

Fax \_\_\_\_\_

Undergraduate Degree (title, date awarded, institution, GPA) \_\_\_\_\_  
\_\_\_\_\_

Signature and Date \_\_\_\_\_

Note: Certificate requirements may change over time. Requirements are determined by the semester in which you file this notice of interest.

Detach and return this form to:

**Continuing Engineering Education  
Purdue University  
Potter Engineering Center, Room 364  
500 Central Drive  
West Lafayette, IN 47907-2022**

CEE Office Use Only	
Reply Date:	ME Date: