

# Non-destructive Evaluation Engineering

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Minor supervised by an interdisciplinary faculty committee, administered by Aerospace Engineering.

The NDE minor is a unique opportunity for engineering students to acquire a multi-disciplinary engineering qualification in the rapidly evolving field of Nondestructive Evaluation.

## Undergraduate Study

Students interested in completing the NDE engineering minor must be enrolled in the College of Engineering at Iowa State University. They must submit the "Request for Minor" form and complete the minimum prescribed 16 credit-hours of course work defined below. Acceptance is based on approval by the administering department, Aerospace Engineering.

The course requirements for the undergraduate minor in NDE are:

MAT E/E M 362	Principles of Nondestructive Testing	3
MAT E/E M 362L	Nondestructive Testing Laboratory	1
Two of the following NDE specific courses		6-7
M S E/E M 550	Fundamentals of Nondestructive Evaluation	
E M 350	Introduction to Nondestructive Evaluation Engineering	
MAT E 488	Eddy Current Nondestructive Evaluation	
Independent study course		
Two of the following		6-7
AER E 321	Flight Structures Analysis	
AER E 421	Advanced Flight Structures	
AER E 423	Composite Flight Structures	
E E 323	Introduction to Digital Signal Processing	4
E E 418	High Speed System Engineering Measurement and Testing	4
CPR E 418	High Speed System Engineering Measurement and Testing	4
I E 348	Solidification Processes	3
I E 361	Statistical Quality Assurance	3
STAT 231	Probability and Statistical Inference for Engineers	
STAT 305	Engineering Statistics	
or MAT E 316	Computational Methods in Materials	
STAT 322	Probabilistic Methods for Electrical Engineers	
AER E 422	Vibrations and Aeroelasticity	
AER E 426	Design of Aerospace Structures	
E M 424	Intermediate Mechanics of Materials	
E M 425	Introduction to the Finite Element Method	
M E 417	Advanced Machine Design	
M E 418	Mechanical Considerations in Robotics	
MAT E 418	Mechanical Behavior of Materials	
MAT E 443	Physical Metallurgy of Ferrous Alloys	
MAT E 444	Corrosion and Failure Analysis	
Total Credits		34-36

A combined average grade of C or higher is required in courses applied to the minor and the minor must include at least 9 credits that are not used to meet any other department, college, or university requirement.