



## Nondestructive Evaluation (NDE) Minor at ISU

Nondestructive evaluation (NDE) utilizes a number of techniques to determine the health of an engineering component or structure without affecting its usefulness. Much like a doctor may use ultrasound or radiography to assess the health of the body, engineers use these and other techniques to decide if material properties are within an acceptable range, if a component was well manufactured, or if damage has occurred in service that would warrant retirement. NDE professionals are active in all phases of engineering, from design to manufacturing to in-service use, and in all industry sectors including aviation, power generation, transportation, manufacturing, and many others.

### Research Opportunities with CNDE:

Undergraduate research opportunities exist with scientists and faculty affiliated with The Center for Nondestructive Evaluation (CNDE) in the following research areas:

- › Ultrasonics
- › Radiography
- › Fluorescent Penetrant
- › Eddy Current
- › Microwave
- › Magnetic Particle

### About CNDE

CNDE is uniquely positioned as the preeminent national leader in fundamental and applied science, technology and educational innovations and engineering know-how serving the broader NDE community.



### Future Employment Opportunities

- › NDE Engineer
- › Principal Development Engineer
- › Quality Control Manager
- › NDT (Quality) Engineer
- › Manufacturing Engineer

### How can undergraduates get involved in NDE?

The NDE Minor at Iowa State University is a unique opportunity to get a multi-disciplinary qualification in the rapidly evolving engineering discipline of Nondestructive Evaluation. There are also several summer internship opportunities accessible by students taking the NDE minor. From the list of the required and approved courses for the minor, 16 credits are required. Courses other than the two required courses can be selected from those listed according to your interests; you can take courses in various NDE disciplines and at the same time qualify for this important minor.

### NDE Minor Scholarships Available:

Donald O. Thompson Founders' Prize

Paul and Joyce Schafbuch Engineering Scholarship

### Required Courses

Mat E/EM 362

Mat E/EM 362L

### NDE Specific Courses

Mat E/EM/Aer E 490, EM 480, Mat E/EE 488, Mat E 485X, MSE/EM 550

### Supporting Courses

Aer E 321, 421, 422, 423, 426

EE 224, 418

EM 424 425

IMSE 348, 361

Mat E 316, 343, 418, 444

ME 417, 418

Stat 231, 305, 322

### Contact:

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