

Student's name _____

**The University of Michigan – Dearborn
College of Engineering and Computer Science**

ID # _____

Industrial and Systems Engineering and Manufacturing Engineering Concurrent Degrees – Fall 2009 Catalog

INDUSTRIAL AND SYSTEMS ENGINEERING majors may also pursue a concurrent B.S.E. degree in Manufacturing Engineering and thus can earn two B.S.E. degrees at the same time:

- a B.S.E. degree in Industrial and Systems Engineering
- a B.S.E. degree in Manufacturing Engineering.

This requires a minimum of **15-16 credits of additional and separate courses** beyond the 128 credits required for the BSE in Industrial and Systems Engineering alone. Both degrees must be earned at the same time.

ISE majors who want a concurrent degree in MFGE take 15-16 credits:

ME 230 *Thermodynamics* (4)
IMSE 4815 * *Manufacturing Processes II* (4)
IMSE 4825 * *Controls, Instrumentation, and Metrology* (4)
IMSE 4835 * *Computer-Aided Process Design and Manufacturing* (4)

* Note: If some of the courses above were already taken for the ISE degree, take one or more courses from the list below for a minimum of 15 credits beyond the 128 needed for the ISE degree.

IMSE 381 *Industrial Robots* (3)
IMSE 4745 *Facilities Planning* (4)
IMSE 486 *Design for Assembly and Manufacturing* (3) or *ME 460 Design for Manufacturing* (3)
IMSE 488 *Sheet Metal Forming* (3)

MANUFACTURING ENGINEERING majors may also pursue a concurrent B.S.E. degree in Industrial and Systems Engineering and can thus earn two B.S.E. degrees at the same time:

- a B.S.E. degree in Manufacturing Engineering
- a B.S.E. degree in Industrial and Systems Engineering.

This requires a minimum of **15 credits of additional and separate courses** beyond the 128 credits required for the Fall 2009 catalog year B.S.E. in Manufacturing Engineering alone. Both degrees must be earned at the same time.

MFGE majors who want a concurrent degree in ISE take 15 credits, 8 of which are the following:

IMSE 4545 * *Information Systems Design* (4)
IMSE 4585 * *Simulation in Systems Design* (4)

And two elective courses (7-8 credits) from the following choices:

IMSE 351 *Data Structures* (3)
IMSE 381 *Industrial Robots* (3)
IMSE 4745 *Facilities Planning* (4)
IMSE 486 *Design for Assembly and Manufacturing* (3) or *ME 460 Design for Manufacturing* (3)
IMSE 488 *Sheet Metal Forming* (3)

* Note: If a MFGE major has already taken one or more of the asterisked courses as part of their MFGE degree, they will have to substitute a course or courses from the list of electives given above, for a minimum of 15 credits beyond the 128 needed for the MFGE degree.