

IEDA 1901 Industrial Training and Experience
Course coordinator: Dr. Xin WANG
Academic Year 2022-23

Course Description: This course is intended to provide UG students with practical hands-on training in the form of either a full-time internship training or industrial training course in an industrial simulated environment. Students who opt for internship training should complete a full-time internship training for a period of at least 4 weeks in an organization or company recognized by the Department for providing qualified internship training relevant to the industrial engineering and decision analytics. Students must also complete the USTSIEB Safety Training module. For IEDA students in their second year of study or above only. Students should seek approval of the internship coordinator for enrollment in the course. Graded P, PP or F.

Industrial Training Course

Textbook(s)/Reference Books/Materials

Students were given notes.

Grading Scheme

100% attendance is the completion criteria of IC training. Unless otherwise stated, all missed session should be made-up before the finalization of results in that semester.

Exemption of Industrial Training for Year 2 and Direct Entry Students

Any student who has completed similar training with respect to the above industrial training program prior to taking up his/her current program of study can apply for partial or full exemption. Application has to be accompanied by relevant proofs eg. Original transcript, logbook, module outlines, green card must be provided to IEDA General Office before for review and approval.

Module Description

Module	Description	Duration	Period	Required for:	
				IEEM - EM Area students	IEEM - LM Area & DA students
USTSIEB	Safety Training (<i>online mode</i>)	0.5 days	Year 2 Winter	Y	Y
TM0108	Metal Cutting and Fitting Practice	4 days	Year 3 / 4 Summer	Y	
TM1133	Electronic Manufacturing Practice	4 days	Year 4 Winter	Y	
USTM10	Manufacturing Resources Planning (<i>online mode</i>)	4 days	Year 3 / 4 Winter	Y	Y
USTM20	Engineering Drawing + AutoCAD (<i>online mode</i>)	4 days	Year 4 Winter	Y	Y
USTM18	Windows Server Administration	4 days	Year 3 / 4 Winter		Y

USTSIEB Safety Training (online mode)

- Laser and Radiation Safety
- Chemical Safety

TM0108 Metal Cutting and Fitting Practice

- Marking out and simple workshop measurement
- Use of hand tools: file, taps and threading dies
- Drilling and reaming. Centre lathes: types, construction, uses
- Turning, facing, undercutting, chamfering and associated tooling
- Turning between centres, taper turning. Milling machines: type, construction, uses and tooling
- Milling plane parallel surfaces
- Slot, gang and straddle milling

TM1133 Electronic Manufacturing Practice

- Introduction to PCB material, fabrication process, photochemical etching, PCB resists
- Plated through hole fabrication and PCB plating appreciation
- Operation of NC drill
- Soldering flux and cleaning
- Hand soldering and desoldering technique
- Wavesoldering machine
- Introduction to programmable logic controller
- Soldering quality
- Electronic interconnect techniques: wire wrapping
- Interconnection of electronic sub-assemblies by connectors and sockets
- Electronic circuit testing techniques

USTM10 Manufacturing Resources Planning (online mode)

- Introduction – MRPII System
- MRPII Package; manufacturing and financial process flow; create item masters; create and enhance Bill of Manufacturing (bill of material, inventory control, material requirement planning, production planning/control and scheduling capacity planning): financial analysis; MRP II case study

USTM20 Engineering Drawing + AutoCAD (online mode)

- Engineering drawing: background
- Orthographic views
- Line types and drawing conventions
- Dimensions and tolerances
- Auxiliary and section views
- AutoCAD: basic setup and user interface
- AutoCAD: drawing and manipulating drawing entities
- AutoCAD: more drawing operations, dimensioning, plotting, exporting

USTM18 Windows Server Administration

- Planning Server Deployments
- Infrastructure Services
- Active Directory Deployment
- Application Services
- File and Print Services
- Storage Solutions
- Planning for high availability

- Server and Network Security
- Securing Infrastructure Services
- Managing Servers
- Monitoring Servers and Backing Up

Industrial Experience

Course Requirements

- Complete a **full-time** internship for a period of **at least four weeks** in an organization or company recognized by the Department for providing qualified internship training relevant to the industrial engineering and decision analytics professional; **and**
- Complete the **USTSIEB Safety Training module**

Time of Enrollment

Between Year 2 Spring term and Year 3 Summer term

Application Procedures

- Before starting an internship, students should apply for pre-approval via [2-in-1 Internship & Industrial Training System](#). Late application will not be accepted.
- Internship Coordinator (Prof. Xin Wang) will check whether the internship is relevant to the students' program of study and grant a provisional approval.
- Within 2 weeks upon completion of the internship, students are required to submit a brief report and supervisor feedback form via [2-in-1 Internship & Industrial Training System](#) for the final approval. They are also required to complete an exit survey.
- For students who have successfully completed the internship and have been granted final approval on their application at the [2-in-1 Internship & Industrial Training System](#), IEDA 1901 will be recorded in their SIS in the coming Spring term.