

### MS3015 – Materials Aspects in Design

<b>Course Code</b>	MS3015						
<b>Course Title</b>	Industrial Design						
<b>Pre-requisites</b>	MS1017	Introduction to Materials Science					
	MS1018	Properties of Materials					
	MS2013	Introduction to Polymer Science/Polymers and Composites					
	MS2083	Polymer Lab					
<b>Co- requisite</b>	MS3011	Metallic & Ceramic Materials					
	MS3082	Design Lab					
<b>Pre-requisite for</b>	NIL						
<b>No of AUs</b>	3						
<b>Contact Hours</b>		39 hrs					

#### **Course Aims**

This course aims to support you to:

This course aims to create an innovative environment that allows students to apply and integrate their theoretical knowledge and skills to solve open-ended real life problems. Students will have the opportunity to work in teams, and to learn how to apply design processes to design and create prototypes for their solutions. Students will be required to produce a short video on their project. Their work will also assessed orally by a panel of judges.

#### **Intended Learning Outcomes (ILO)**

By the end of this course, you (as a student) would be able to:

1. Design a systematic plan based on sound design thinking processes to solve an identified problem;
2. Work together as a team;
3. Identify and apply engineering tools to solve identified problem;
4. Present and market your work to an audience and a panel of judges.

#### **Course Content**

Students will be taught design processes in order to design a systematic approach to solve problems identified in their projects. The technical content of the project will vary according to the type of the projects provided by industrial partners, mostly related to materials science and/or engineering. Students will also likely be exposed to electronics, 3D printing, fabrication and materials testing in their prototyping process.

#### **Reading and References**

As content is project dependent, students are expected to seek their own references that are relevant to their projects.

## **Course Policies and Student Responsibilities**

### **(1) General**

Students are expected to attend weekly classes and scheduled seminars punctually, and complete online activities weekly. Students are expected to participate in all class discussions and activities.

### **(2) Absence due to medical or other reasons**

Should students need to be away from the course for an extended period (i.e., exceeding one week), they will need to seek the approval of the coordinator and project supervisor.

Students are required to attend all weekly meetings. If they are unable to make it, they are supposed to take leave from the coordinator before the meeting or produce official letter of excuse (including medical certificates).

## **Academic Integrity**

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.