

# PX916-60 Dissertation

**22/23**

**Department**

Physics

**Level**

Taught Postgraduate Level

**Module leader**

Nicholas Hine

**Credit value**

60

**Assessment**

50% coursework, 50% exam

**Study location**

University of Warwick main campus, Coventry

---

## Description

### Introductory description

N/A.

[Module web page](#)

### Module aims

The student will write up their Individual Project research in the form of a dissertation, of around 10,000-12,000 words, or equivalent length in the case of more mathematical projects.

### Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

The dissertation is expected to follow the topic suggested by the Project Supervisor, which will have been approved by the CDT board according to the procedures outlined in the HetSys course description. The dissertation must demonstrate detailed knowledge and approaches the frontiers of research, with the innovative requirement to include explicit quantification of uncertainties and/or modern aspects of software design.

### Learning outcomes

By the end of the module, students should be able to:

- Demonstrate knowledge of state-of-the-art practices and methodologies in an area of computational modelling as applied to heterogeneous materials systems, and a wide-ranging understanding of the context of these practices within the broader field.
- Create novel understanding, interpretation and prediction of the behaviour of a complex heterogeneous system through computational modelling, applicable to cutting-edge technology or fundamental research.
- Create or adapt, and then analyse, an appropriate computational model within robust scientific software, including means to acquire quantitative insight into the uncertainty and error bars associated with predictions it makes.
- Communicate of the results of this research to other researchers in related disciplines.
- Be defended in a viva voce examination by internal examiners who are experts in a related field of study.

### **Research element**

Research project within HetSys CDT.

### **Subject specific skills**

Demonstrate knowledge of state-of-the-art practices and methodologies in an area of computational modelling as applied to heterogeneous materials systems, and a wide-ranging understanding of the context of these practices within the broader field.

Create novel understanding, interpretation and prediction of the behaviour of a complex heterogeneous system through computational modelling, applicable to cutting-edge technology or fundamental research.

Create or adapt, and then analyse, an appropriate computational model within robust scientific software, including means to acquire quantitative insight into the uncertainty and error bars associated with predictions it makes.

Communicate of the results of this research to other researchers in related disciplines  
be defended in a viva voce examination by internal examiners who are experts in a related field of study.

### **Transferable skills**

Writing and presentation skills. Data Analysis.

---

## **Study**

## **Study time**

<b>Type</b>	<b>Required</b>
Project supervision	24 sessions of 1 hour (100%)
Total	24 hours

### **Private study description**

Research for Project.

### **Costs**

No further costs have been identified for this module.

---

### **Assessment**

You must pass all assessment components to pass the module.

#### **Assessment group C**

	<b>Weighting</b>	<b>Study time</b>
HetSys MSc Dissertation	50%	200 hours
Dissertation Viva	50%	32 hours

#### **Feedback on assessment**

Examiners Report.

[Past exam papers for PX916](#)

---

### **Availability**

There is currently no information about the courses for which this module is core or optional.