

**Research and Presentation Skills Development  
Intensive 4-day generic skills course for research students  
(engineering, science, mathematics disciplines)**

**Module Specification**

**1. Description**

**1.1 Aims**

The aim of this module is to provide guidance in, and the opportunity for, the development of generic research and presentation skills. This module is delivered over four days; the aims for each day of the course are:

**Day 1 - Research Skills (9:00am to 4:15pm):** to introduce the basic principles and skills for conducting post graduate level research, specifically how to plan your research programme, how to search and process published research material and how to work effectively with the research supervisor/s.

**Day 2- Presentation Skills (9:00am to 5:15pm):** to develop each student delegate's basic presentations skills, specifically how to engage the audience, how to plan and prepare a presentation, how to structure a presentation and how to use visual aids, particularly Powerpoint, to support and enhance a presentation.

**Day 3 - Reporting and Publishing Skills (9:00am to 4:15pm):** to provide guidance, information and practice in the preparation, planning and writing of a research report, basic writing skills, how to review your writing, guidance relating to publishing at conferences and how to present research findings in a poster format, working with others in a team.

**Day 4 - People and Presentation Skills (9:00am to 4:15pm):** to provide student delegate with tools and techniques for being assertive and for negotiating effectively, to provide the opportunity for student delegates to practice and develop these techniques and to provide student delegates with a further opportunity to practice their presentation skills.

## 1.2 Objectives (planned learning outcomes)

Specific objectives have been identified for each day in this module, these are:

### Day 1 - Research Skills

#### *Knowledge and understanding*

Having successfully completed this day of the module, you will be able to demonstrate knowledge and understanding of:

1. The principles underpinning successful post-graduate level research;
2. The key components of a post-graduate research programme;
3. The difference between short, medium and long term goals;
4. The importance of planning and goal setting;
5. How to find and identify useful research publications; and,
6. Your expectations and those of your supervisor/s.

#### *Intellectual skills*

Having successfully completed this day of the module, you will be able to:

1. Devise aims and objectives for your own research;
2. Identify and set research milestones;
3. Digest and utilise published research findings;
4. Critically review published research; and,
5. Prepare for meetings with their supervisor/s.

#### *Practical skills*

Having successfully completed this day of the module, you will be able to:

1. Prepare a research plan in collaboration with your supervisor;
2. Undertake literature searches;
3. Write a critical literature review; and,
4. Get more out of your interactions with your supervisor/s.

### Day 2 - Presentation Skills

#### *Knowledge and understanding*

Having successfully completed this day of the module, you will be able to demonstrate knowledge and understanding of:

1. The key factors for getting peoples' attention;
2. The key components of a good presentation;
3. The importance of effective introductions and summaries;
4. How to structure a presentation and link it together;
5. When to use visual aids to enhance a presentation;
6. How to design and present with visual aids; and,
7. What constitutes a good poster presentation.

#### *Intellectual skills*

Having successfully completed this day of the module, you will be able to:

1. Evaluate your own presentations and those of your colleagues;
2. Assess your own presentations and those of your colleagues;
3. Review and reflect upon the evaluation and assessment of your own presentations; and,
4. Evaluate a poster.

#### *Practical skills*

Having successfully completed this day of the module, you will be able to:

1. Identify and structure material for a short presentation (5-10 mins) on your research subject.

## **Day 3 - Reporting and Publishing Skills**

### *Knowledge and understanding*

Having successfully completed this day of the module, you will be able to demonstrate knowledge and understanding of:

1. The purpose of research reporting;
2. What should be presented in a research report; and,
3. What to expect from the research supervisor when writing.

### *Intellectual skills*

Having successfully completed this day of the module, you will be able to:

1. Structure and present your research findings;
2. Understand and clarify questions about your research area; and,
3. Reflect on where and how to publish their research findings at conferences.

### *Practical skills*

Having successfully completed this day of the module, you will be able to:

1. Prepare an outline of a research report;
2. Prepare and execute a writing plan; and,
3. Design and present a poster.

## **Day 4 - People and Presentation Skills**

### *Knowledge and understanding*

Having successfully completed this day of the module, you will be able to demonstrate knowledge and understanding of:

1. When and how to be assertive or to negotiate;
2. The importance of being able to be assertive or to negotiate;
3. The process of being assertive;
4. Negotiation styles and tactics;
5. What effective visual aids look like; and,
6. How to present with PowerPoint.

### *Intellectual skills*

Having successfully completed this day of the module, you will be able to:

1. Understand and appreciate other points of view;
2. Identify and appreciate the benefits of a win-win situation;
3. Evaluate your own PowerPoint presentations and those of your colleagues;
4. Assess your own PowerPoint presentations and those of your colleagues; and,
5. Review and reflect upon the evaluation and assessment of your own PowerPoint presentation.

### *Practical skills*

Having successfully completed this day of the module, you will be able to:

1. Follow a structured process for being assertive;
2. Explore all options in a negotiation situation;
3. Identify and structure material for a short PowerPoint presentation (5-10 mins) on your research subject;
4. Prepare appropriate PowerPoint slides for a short presentation (5-10 mins) on your research subject; and,
5. Deliver a short PowerPoint presentation (5-10 mins) on your research subject.

## Entire Course

### *General transferable (key) skills*

Having successfully completed the entire module, you will be able to:

1. Communicate your research findings more effectively.
2. Work with your research colleagues more effectively

For additional generic skills see above.

## 1.3 Topics Covered

The topics covered in this 4-day module are:

### **Research Skills**

- The principles of research
- Setting short, medium and long term goals
- Identifying and setting milestones
- Preparing a research plan
- Finding relevant literature (printed and electronic)
- Reading and digesting research publications
- Presenting your literature review
- Asking critical questions
- Your expectations and your supervisor's
- Working with your supervisor/s

### **Presentation Skills**

- Getting the audience to listen
- Planning presentations
- Introductions and summaries
- Structuring presentations
- Linking subject matter of presentations
- How and when to use visual aids
- Preparing and presenting with visual aids
- The pros and cons of PowerPoint
- The do's and don'ts of PowerPoint animations

### **People Skills**

- Getting your point across
- Processes for being assertive
- Negotiation tactics and styles
- Encouraging a win-win attitude
- Exploring all negotiation options
- Improving self-awareness in negotiation situations
- Group behaviour

### **Reporting & Publishing**

- Basic writing skills
- What to write in research documents
- How to review and assess your own writing
- Preparing an outline of a research report
- Planning your writing
- Getting the most from conferences
- Publishing at conferences
- Designing and presenting posters

## 1.4 Teaching and learning methods and activities

### Teaching methods:

This module will be delivered in a workshop format.

**Teaching** of the material will be through short presentations (5-30 mins) delivered to all student delegates or break-out groups, discussion forums, the provision of course notes and feedback sessions following presentations.

### Learning activities:

For the Presentation Skills, Personal Skills and other key elements of the programme, **learning** will be facilitated through student delegates working in groups of 10 or less. All student delegates will give at least three presentations, after each individual presentation feedback and evaluation will be given by their colleagues and by the group facilitator. All presentations will be recorded and each student delegate will have a personal video debrief. The main presentations will be peer assessed and facilitator assessed.

For the other short courses, **learning** will be facilitated through the undertaking of exercises based on the material in teams, individually and through role-play activities.

## 1.5 Methods of assessment (summative assessment)

No formal summative assessment is currently included in this specification.

## 1.6 Feedback and support during module study (formative assessment)

Peer and facilitator evaluation and assessment of all presentations; video supplied for personal reflections; individual and/or group feedback on general activities; detailed feedback through debriefing of team and leadership activities; written feedback with assessment.

## 1.7 Relationship between the teaching, learning and assessment methods and the planned learning outcomes

The short presentations, combined with course notes and discussion forums will establish the knowledge base and develop understanding. The presentation sessions with subsequent feedback, evaluation and assessment will provide each student delegate with the opportunity to practice and develop their presentation skills. The individual, group and team exercises, together with the assessed work, will provide student delegates with the opportunity to embed this learning through application and practice in a relevant context.

## 2. Resources

### Core Text:

Each student delegate will be provided with a Workbook which include Courses Notes for the entire programme.

### Other Recommended Texts

#### **Basic Presentations Skills and Presenting with Visual Aids**

**Wilder, C.** (1994) **The Presentations Kit**, John Wiley and Sons, USA, ISBN 0 471 31092 1

#### **People Skills**

**Kline, N** (1998) **Time to Think**, Cassell Illustrated, UK, ISBN: 0706377451

#### **Experimentation**

**Creswell, J.W.** (2003) **Research Design: Qualitative, Quantitative and Mixed Methods Approaches**, Sage Publications, London, ISBN 0 7619 2442 6.

**Kumar, R.** (1996) **Research Methodology: A Step by Step Guide for Beginners**, Sage Publications, London, ISBN 0 7619 6214 X

**Vardeman, S.B.** (2001) **Basic Engineering Data Collection and Analysis**, Duxbury, Pacific Grove, CA, USA, ISBN 0 534 36957X

**Box, G.E.P., Hunter, W.G. and Hunter, J.S.** (1978) **Statistics for Experimenters**, John Wiley and Sons, USA, ISBN 0 471 09315 7