Sensory Science Training Courses

There is currently a need for structured Sensory Science training for Industry. In collaboration, the University of Nottingham and Campden BRI provide:

• A flexible, progressive postgraduate course in Sensory Science.
• Short courses in Sensory Science for Continued Professional Development.

The University of Nottingham is well known for its excellence in sensory science research and teaching. The sensory group at Campden BRI has substantial experience in providing sensory services for industry. Such a combination of expertise offers delegates excellent opportunities to develop their own knowledge and apply this in the workplace.

Postgraduate Certificate and Courses in Sensory Science

Course structure

• The Postgraduate Certificate in Sensory Science comprises four compulsory modules, a practical project, and a choice of options. A formal examination and/or a piece of coursework assess each module.

• The flexible nature of the course enables delegates to study on a part-time basis, typically three modules a year. Most delegates complete the course in two to four years. Start date for the PGCert is recommended as September or February, although registration is possible at any time throughout the academic year.

• Modules are supported through the University’s virtual learning environment which provides access to a wealth of electronic and resources to facilitate learning. Delegates registered on the PGCert also have full access to the University’s extensive online and in-house library facilities.

Modules/Courses:

Apart from the Practical Research Project, modules run for four consecutive days and can be taken as individual courses. Successful completion of all six modules leads to the award of the Postgraduate Certificate in Sensory Science. Modules currently offered are:

• Sensory Evaluation and Sensory Techniques (IFST Accredited) (Sept and Feb)
• Sensory Evaluation – Statistical Methods and Interpretation (Jan)
• Psychophysics, Perception and Physiology (May)
• Consumer Studies and Market Research (June)
• Food Flavour (April)
• Practical Research Project (PG Cert only) (all year)

Two one day courses are also available:

• Sensory Evaluation: An introductory workshop
• Sensory Methods for Quality Control
Sensory Evaluation and Sensory Techniques (Sept and Feb)

This 4 day module is run by Campden BRI. It provides an introduction to sensory evaluation techniques, data analysis and panel selection. Many companies appreciate just how valuable sensory evaluation can be to their business; however, it is crucial that it is implemented with a thorough understanding of panel training methods and interpretation of results. Campden BRI’s team of sensory scientists draw on their own industrial experiences to demonstrate just how successful good sensory practice can be. It is accredited at Intermediate level by the IFST and delegates have the option of taking the IFST examination in Sensory Science.

Sensory Evaluation – Statistical Methods and Interpretation (Jan)

Ever wondered why you analyse your sensory data using the techniques you do, why you make particular choices in the analysis, how appropriate it is, why you interpret the data that way or do you ever question the validity of the conclusions you draw? This four day intensive course takes delegates through some of the fundamental theory behind the statistical analysis of sensory data. Starting with univariate techniques (including difference and similarity testing, ranking and ANOVA) and moving through to multivariate analysis, e.g., PCA and GPA, the course highlights important issues for the application and interpretation of statistical techniques.

After the module, delegates should be able to:
• Understand and apply a range of univariate and multivariate techniques to sensory data
• Appreciate the application of different experimental designs

Psychophysics, Perception and Physiology (May)

A 4 day module providing both a fundamental and practical understanding of human sensory perception and the techniques used to examine them. The module starts with an update on the mechanism of sensory perception and considers aspects of individual variation such as genetic factors, age and gender. This is followed by an introduction to Psychophysics, including ‘threshold testing’ and signal detection theory which underpins the use of d’ and R-index measures. We consider the use of newer ‘labelled magnitude scales’ and temporal measures of sensation including ‘time intensity’ and ‘Temporal Dominance of Sensations’ methodologies. We also look at the relative merits of the ‘Rapid Methods’ now available to sensory scientists and finish by bringing the senses together in consideration of the concept of multimodal perception and interactions between the senses.

After the module, delegates should be able to:
• Understand the biological basis of perception and individual variation
• Review the laws of psychophysics and their relationship to sensory testing
• Understand and apply recent advances in sensory measurement including d’ and the R-index, Temporal Dominance of Sensations and Rapid Methods for descriptive analysis.
**Consumer Studies and Market Research (June)**

This 4 day module introduces delegates to factors affecting consumer acceptance of food and the application of techniques used to understand them. The course considers the impact of issues such as questionnaire design, expectation and context before reviewing both qualitative methods, e.g. focus groups, and quantitative techniques. We reflect upon emotional response and the methods used to capture this, before moving on to more advanced approaches such as Repertory Grid, Conjoint analysis and a review of the techniques available in the Preference Mapping toolbox.

By the end of this course delegates should be able to:

- Define the factors shaping consumer acceptance
- Review the methods available for determining consumer acceptance and attitudes and their pros and cons
- Demonstrate how these principles can be utilized for improved NPD (New Product Development)

**Food Flavour (April)**

The Food Flavour short course is a four day long programme that introduces the fundamental science of food flavour through relevant scientific case examples and industrially relevant applications. Both analytical chemistry and flavourist style approaches will be taken to explore how flavour and flavours can be generated, analysed, delivered and commercially exploited. The course is particularly relevant to developing scientists in the food, drink or flavour industry and to students who wish to broaden their experience and subsequently enter the food industry. The course covers:

- Understanding Flavour Compounds - flavour chemistry; flavour carrier systems (encapsulation); flavour legislation; flavour generation
- Measuring Flavour - flavour analysis (volatile and non-volatile) theory; practical approaches to flavour analysis
- Flavour Release - orthonasal delivery; oral processing; in-vivo flavour delivery; flavour persistence; modelling flavour release
- Flavour Formulation and Applications - application examples; an instruction from a flavourist; practical (flavour blending), case histories

“*The module was well delivered, the practicals were interesting and informative; the speakers were very knowledgeable and enthusiastic about their subject*” (previous industry delegate)

**Research Project**

As part of the PGCert, delegates report on a practical project carried out to address a commercial/technical issue currently challenging their organisation, supported by a tutor from Campden BRI or The University of Nottingham. The practical element is usually carried out at the place of work.
Sensory Evaluation: An introductory workshop (IFST Accredited)

This one day course (9.30-4pm) introduces Sensory Science as a scientific discipline:
- The senses and sensitivity.
- Sensory panels: who should be assessing your products?
- Controlling sensory investigations: the room, the samples, the panel.
- Test methods – Discrimination, Descriptive and Acceptability: what methods exist and when and what can I use them for?

Sensory Methods for Quality Control

This one day course (10.15–4.30pm) reviews the role of Sensory Science in quality control:
- Defining Sensory Quality and Sensory Specifications
- Issues concerning the introduction of sensory quality programs
- Sensory Quality Control methods

Entry requirements

To register for the PG Certificate, delegates are expected to have an honours degree in a science based subject and/or to have relevant experience in sensory analysis. Applicants whose first language is not English must also achieve:
- IELTS 6.0 (no less than 5.5 in any element)
- TOEFL iBT 79 (no less than 17 in listening and writing, 18 in reading and 20 in speaking)

1. Test results should be no more than two years old. Presessional and insessional English language courses for international students are run by our Centre for English Language Education (CELE).

Fees and funding

Delegates who undertake to attend six modules and register for a postgraduate certificate pay a significantly reduced total fee of £7,500 (no VAT) for 2013/14. Individual modules cost £1,500 (no VAT) for 13/14. Up-to-date fees information and advice on funding opportunities can be found at pgstudy.nottingham.ac.uk/postgraduate-funding

Bursaries to pay complete course fees or individual module costs may be available to UK industry delegates through our BBSRC Advanced Training Partnership Award

How to apply: You can apply online for the Postgraduate Certificate in Sensory Science. For individual modules as short courses please contact Carolyn Newton.

Where will I study?
The course is based in the University’s Sensory Science Centre at the Sutton Bonington Campus, with some modules held at Campden BRI, Chipping Campden, Gloucestershire.

Find out more

Academic enquiries: to Professor Joanne Hort, SABMiller Chair in Sensory Science. Email: joanne.hort@nottingham.ac.uk

Application enquiries: Ms Carolyn Newton. Email: carolyn.newton@nottingham.ac.uk

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