**Liverpool** John Moores University

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| Title: | DATA PRESENTATION & ANALYSIS |
| Status: | Definitive |
| Code: | **3000FNDSCI** (101359) |
| Version Start Date: | 01-08-2011 |
| Owning School/Faculty: | Natural Sciences & Psychology |
| Teaching School/Faculty: | Pharmacy & Biomolecular Sciences |

| Team | Leader |
|---|---|
| Mark Feltham | Y |
| Philip Denton | |

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| **Academic Level:** | FHEQ3 | **Credit Value:** | 12.00 | **Total Delivered Hours:** | 28.00 |
| **Total Learning Hours:** | 120 | **Private Study:** | 92 | | |

**Delivery Options**
Course typically offered: Semester 1

| Component | Contact Hours |
|---|---|
| Lecture | 10.000 |
| Tutorial | 8.000 |
| Workshop | 10.000 |

**Grading Basis:** 40 %

**Assessment Details**

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|---|---|---|---|---|
| Technology | Chem | Numeracy and Excel spreadsheets | 20.0 | |
| Technology | Des stat | Descriptive statistics | 20.0 | |
| Technology | Anal stat | Analytical statistics | 20.0 | |
| Portfolio | Num | Tutorial work | 15.0 | |
| Portfolio | Sem | | 15.0 | |
| Portfolio | Prog rev | | 10.0 | |

**Aims**

*This module aims to give a grounding in mathematical techniques necessary for the*

*study of organismal biology, chemistry and geoscience at this level. The module will also be used to introduce basic IT skills in particular the use of Minitab, Excel & PowerPoint*

## Learning Outcomes

After completing the module the student should be able to:

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| 1 | Perform mole calculations involving the Avogadro constant and atomic/molecular masses |
| 2 | apply the ideal gas equation pV = nRT to simple systems considered in SI units. |
| 3 | Calculate reacting masses/volumes from balanced equations |
| 4 | Use simple statistical techniques to analyse experimental data. |
| 5 | Demonstrate familiarity with basic IT software to produce documents, spreadsheets and presentations of an appropriate standard. |

## Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

| | | | | |
|---|---|---|---|---|
| Chemistry Comp. Assign | 1 | 2 | 3 | 5 |
| Descriptive Stats Comp Assign | 4 | | | |
| Analytical Stats Comp. Assign | 4 | | | |
| Numeracy Evaluation | 5 | | | |
| Seminar | 5 | | | |
| Progress Review | 5 | | | |

## Outline Syllabus

*The use of the Minitab statistical package to analyse the basic characteristics of data including mean, standard deviation, normal distribution. Parametric and non-parametric tests for differences and correlations. The use of Excel for producing graphs and developing simple spreadsheets. The use of PowerPoint to present data in seminar presentations.*

*Principles of atomic number, Avogadro's constant. Behaviour of ideal gases - the gas laws. The principles of valency, balancing equations and the predictions of reacting masses.*

## Learning Activities

Computer-aided learning, lecture and tutorial work.

## References

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|---|---|
| **Course Material** | Book |
| **Author** | Northedge, A., Thomas, J., Lane, A. & Peasgood, A. |
| **Publishing Year** | 1997 |
| **Title** | The sciences good study guide |
| **Subtitle** | |
| **Edition** | |
| **Publisher** | Open University |
| **ISBN** | 0749234113 |

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|---|---|
| **Course Material** | Book |
| **Author** | Waltham, D. |
| **Publishing Year** | 2000 |
| **Title** | Mathematics |
| **Subtitle** | a simple tool for geologists |
| **Edition** | 2nd |
| **Publisher** | Blackwell Science |
| **ISBN** | 0632053453 |

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## Notes

This module will be mainly delivered in a workshop environment where help will be given with basic computing skills and basic mathematical techniques. Students will be able to practice in the BIE computer suite in their private study time.