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| Module Title: | Instrumentation 3 - HPLC |
| Academic year: | 2008 – 2009 |
| Credit Value: | 5 – Mandatory |
| Pre- requisites: | |
| Assessment: | 20% Continuous Assessment (C.A.), 40% Practical, 40% Final Exam |
| Aims | The aim of this module is to provide the student with structured learning opportunities leading to the development of working knowledge skill and competence in HPLC techniques this will include development and demonstration of a detailed working knowledge of column separations, basic set up and operation of equipment, sample preparation, data capture and analysis. |
| Module Content | <ul style="list-style-type: none"> • The basis of chromatographic separations • The key components of HPLC systems and their functions • Metrics used to evaluate chromatograms • Sample and mobile phase preparation • Band broadening effects • Applications and sensitivity ranges of HPLC • Sample detection (UV, PDA, fluorescence) • Qualitative and quantitative analysis by HPLC • Column design • Understand the role of the analyst in a bio/pharmaceutical manufacturing organisation |
| Intended Learning Outcomes: | <p>On successful completion of this module the student should be able to:</p> <ol style="list-style-type: none"> 1. Explain the basic principles of chromatographic separations by HPLC 2. Identify and explain the operation of key components of HPLC systems 3. Identify, explain the key metrics used to describe and evaluate the quality of a chromatographic separation (e.g. t_r, α, R_s, N) 4. Explain the basis of the different major types of separation e.g. reverse phase, normal phase) 5. Accurately prepare mobile phases for HPLC |

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| | <ol style="list-style-type: none">6. Set up and carry out basic operations on HPLC systems7. Perform and monitor basic separations on HPLC systems8. Accurately record and perform basic evaluations of chromatographic data9. Work safely in an analytical laboratory |
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