1. **Title of the module**

NUMR0001 (Greenwich Code: MATH1178) Numeracy for Pharmacy and Biomedical Sciences

1. **School or partner institution which will be responsible for management of the module**

*Medway School of Pharmacy*

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

*Level 3*

1. **The number of credits and the ECTS value which the module represents**

*15 credits (7.5 ECTS)*

1. **Which term(s) the module is to be taught in (or other teaching pattern)**

*Term 1 and Term 2*

1. **Prerequisite and co-requisite modules**

*None*

1. **The programmes of study to which the module contributes**

Master of Pharmacy, BSc(Hons) in Pharmacology and Physiology

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**

8.1 Demonstrate an ability to undertake simple and complex (level appropriate) mathematical

calculations.

8.2 Demonstrate an ability to apply the knowledge gained in classroom to elementary problem

solving.

8.3 Demonstrate an ability to collect, summarise and appraise numerical and basic statistical data.

8.4 Demonstrate basic competence in summarising data.

8.5 Establish learning skills required for Level 4 study

1. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**

9.1 Develop an ability to demonstrate and apply knowledge

9.2 Develop problem recognition and problem solving skills

9.3 Develop the ability to interpret numerical data

9.4 Develop the ability to retrieve and evaluate information from a variety of reference sources including on-line searches

9.5 Develop written and verbal communication skills

*9.6 Develop IT and independent study skills*

1. **A synopsis of the curriculum**

10.1 Diagnostic skills assessment

10.2 Review of basic arithmetic operations

10.3 Manipulation of fractions including decimal fractions; indices; percentage and ratio; parts and proportions; SI unit conversions

10.4 Handing complex mathematical operations including algebraic fractions, equations and expressions; factorisation

10.5 Manipulation of linear and non- linear equations and algebraic expressions

10.6 Handling concentration and dilutions including dose and molar concentration

10.7 Introduction to basic statistics: numerical data summary methods including mean, mode, median, mean deviation, variance and standard deviation calculations

10.8 Introduction to statistics: tabular and graphical representation of data including pie charts; histograms, bar and scatter graphs

10.9 Data interpretation: normal distribution; skewness of data

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

*Croft A and Davison R (2016) Foundation Mathematics 6th Edition Pearson*

*Langley C and Perrie Y (2015) Math Skills for Pharmacy 1st Edition Oxford University Press*

1. **Learning and teaching methods**

A variety of learning and teaching methods will be used to deliver this module to enable students to meet all the specific and generic learning outcomes to acquire knowledge and problem solving skills.

These methods will include didactic lectures, tutorial sessions, workshops and other active computer assisted learning interventions

The module will be taught by 1 hour lecture followed by 1 hour interactive tutorial sessions during the Autumn term and the Spring term

Students are expected to undertake hours of managed student centred learning (MSCL) activities (52 hours) and engaged in private study (66 hours)

The tutorial and workshop (2 x 3 hour) sessions (one in the Autumn and one in the Spring term) will serve to consolidate the lectures and allow students to have hands on practice at solving numeracy problems.

MSCL(Managed Student Centred Learning) problem set work sheets, designed to supplement the lectures and tutorial sessions, will be posted on-line via the university Moodle platform on a weekly to allow students to practise problem solving skills and apply knowledge acquired in the class room

Through these MSCL activities, student peer group learning will be encouraged.

Through private study students will also be able to develop self-directed learning skills

1. **Assessment methods**
   1. Main assessment methods

20% data analysis coursework

20% written assignment

60% exam.

Written formative assessment

The passmark for this module is 40% (note that the progression mark is 60% in each module to progress onto stage 1 of the MPharm, 50% in each module to progress onto the BSc (Hons in Pharmacology and Physiology).

13.2 Reassessment methods

Students will be normally be allowed one further resit opportunity for a failed examination, in accordance with the academic regulations for the MSOP MPharm and non-MPharm degree programmes (2017)

1. ***Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** |  | *8.1* | *8.2* | *8.3* | *8.4* | *8.5* |  | *9.1* | *9.2* | *9.3* | *9.4* | *9.5* | *9.6* |
| **Learning/ teaching method** | **Hours allocated** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Private Study** | *66* | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** |  | **x** | **x** | **x** |
| ***Lectures*** | *13* | **x** | **x** | **x** | **x** | **x** |  |  | **x** | **x** |  |  |  |
| ***Tutorials*** | *13* | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** | **x** | **x** | **x** |  |
| ***Workshops*** | *6* | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** | **x** | **x** | **x** |  |
| ***MSCL*** | *52* | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** | **x** | **x** | **x** | **x** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Written Formative assessment* |  | **x** | **x** | **x** | **x** | **x** |  |  |  |  |  |  |  |
| *Coursework*  *Data analysis*  *Coursework* |  | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** | **x** |  |  |  |
| *Written assignment* |  |  |  |  |  |  |  |  |  | **x** | **x** | **x** | **x** |
| *Written summative Examination* |  | **x** | **x** | **x** | **x** | **x** |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1. **Inclusive module design**

The School recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

***Medway****’*

1. **Internationalisation**

Staff teaching on this module are well qualified with a significant amount training from institutions

Worldwide.

**If the module is part of a programme in a Partner College or Validated Institution, please complete sections 18 and 19. If the module is not part of a programme in a Partner College or Validated Institution these sections can be deleted.**

1. **Partner College/Validated Institution**

N/A

1. **University School responsible for the programme**

Medway School of Pharmacy

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**Revision record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
| 31/10/18 | New module |  |  |  |
|  |  |  |  |  |