1. **Title of the module**

DICE8840 (DI884) Research Skills for Natural Sciences

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

Division of Human and Social Sciences / School of Anthropology and Conservation

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

Level 7

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)**

Autumn

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

None

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

MSc Conservation Biology

MSc Conservation and Tourism

MSc Conservation and International Wildlife Trade

MSc Conservation and Rural Development

MSc Conservation Project Management

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

8.1 demonstrate a sound knowledge of the principles of research design and how they should be applied to conservation projects

8.2 demonstrate a comprehension of the difference between quantitative and qualitative data and the research designs for which each is appropriate

8.3 understand the use and application of descriptive and inferential statistics in quantitative data analysis

8.4 demonstrate an appreciation of the use and application of a range of parametric and nonparametric statistical tools in quantitative data analysis

8.5 use appropriate statistical test to explore and analyse quantitative data

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

9.1 demonstrate enhanced written and graphical communication skills

9.2 appraise statistical information and the quality of research designs

9.3 demonstrate enhanced computer literacy using statistical packages and excel

9.4 demonstrate critical thinking and reading skills

1. **A synopsis of the curriculum**

The curriculum will review the approaches used by natural scientists in the design and analysis of research projects. The principles of experimental design and how these can be applied to field projects will be explained, together with the nature of both quantitative and qualitative data. An introduction to sampling strategies and the role of probability in inferential statistics will lead into the role of descriptive statistics and measures of variability in data exploration. This will be complemented by consideration of the application of both parametric and nonparametric statistics in data analysis (i.e. t-tests, ANOVA, regression, correlation and their nonparametric equivalents), coupled with training in the use of a statistical package to carry out such analyses. Finally, the rules underlying the appropriate presentation of statistical data in research reports will be discussed

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

* Dytham, C. 2010. Choosing and Using Statistics: a biologist’s guide. 3rd edition. Wiley-Blackwell, Oxford
* Folwer, J., Cohen, L. & Jarvis, P. 1998. Practical Statistics for Field Biologists. 2nd edition. Wiley, Chicester

1. **Learning and teaching methods**

Total contact hours: 30.5

Private study hours: 119.5

Total study hours: 150

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

**Critical Reading (50%):**the students are tasked to write a critical response to a scientific article issued by the module convenor in the form of a ‘Letter to the Editor’. This critical piece should not exceed 800 words (excluding references)

*\*This element is pass compulsory and must be passed to achieve the learning outcomes of the module.*

**Statistical Analysis (50%).**This assignment consists of statistical exercises with a series of tasks with clear instructions based on given datasets.

*\*This element is pass compulsory and must be passed to achieve the learning outcomes of the module.*

13.2 Reassessment methods

Reassessment Instrument: 100% coursework.

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* |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |
| **Private Study** |  |  |  |  |  |  |  |  |  |
| *Lectures* | **X** | **X** | **X** | **X** | ***X*** | **X** | **X** | **X** | **X** |
| *Seminars* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |
| *Computer Practical(s)* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |
| **Assessment method** |  |  |  |  |  |  |  |  |  |
| *Critical Reading* | **X** | **X** |  |  |  | **X** | **X** |  | **X** |
| *Statistical analysis* |  | **X** | **X** | **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**

Canterbury

1. **Internationalisation**

Please highlight aspects of this module where internationalisation is actively incorporated or intended. Refer to any relevant internationally-focused learning outcomes and, where possible, identify internationalisation in any of the following: subject content, assessment tasks, teaching methods/activities and support activity.

*Support and explanation will be provided via a separate curriculum internationalisation toolkit, available from the Dean for Internationalisation. For further guidance see* [*https://www.kent.ac.uk/global/curriculum.html*](https://www.kent.ac.uk/global/curriculum.html)*.*

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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) |
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Revised FSO Jan 2018