IJP: Course Title & Level Change

The "Introduction to Java Programming" (IJP) course is intended to provide MSc students with improved practical programming skills for use in their projects and subsequent career (see description below).

The distance and on-campus versions of the course are almost identical: they are based on practical work and there are few lectures - this requires a significant amount of self-study and motivation, and the material is covered much more quickly than any comparable undergraduate course. However, for historical reasons, the course is currently listed as level 9. This is misleading for the students and confusing for the administration. **We would like to correct this anomaly and re-classify the course as level 11.**

The course title is also confusing for students who often expect a more scaffolded introduction to the Java language. In practice, the language details are left largely to the students self-study and the course focusses on the development of realistic applications using external libraries and object-oriented technology. The principles are equally applicable to other languages. **We would therefore like to change the course title to: "An introduction to practical programming with objects" (IPPO).**

No significant change is proposed to the course content or format.

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Course Description

This module is intended for students who have some previous programming experience, but would like to develop their ability to write complete, practical applications. Students with no programming experience should be able to complete the course, although this will almost certainly be challenging and will require additional time. The course uses an object-oriented approach, based around the Java language, but no previous experience of specific languages or technologies is assumed.

Learning to program requires practice, and students on this course typically have very diverse programming backgrounds. Locating and working with online materials is also an essential skill for developing real applications. For these reasons, the course has no regular lectures on the content - it is facilitated by structured assignments, a recommended textbook, online materials, well-supported lab sessions (or online tutorials for distance learning students), and an online forum. This provides a flexible learning environment, and students should be prepared to manage their own schedule and to take advantage of the resources in a way which is most appropriate to their own experience.

The course content includes the following topics:
- Object-oriented design - classes, objects, inheritance, coupling, cohesion, responsibility.
- The basics of the Java programming language.
- The use of external libraries - collections, graphical interfaces, networking.
- Development tools.
- Code readability and documentation.
- Graphical user interfaces.