

## **Designing an Undergraduate Honours Programme in Operations Research**

### **Summary**

This paper provides a brief overview of how a new degree programme to be offered by a university is designed. Some of the aspects to be discussed in this paper includes:

- A clear statement of purpose or rationale of the programme. This will include a description of what is being proposed including the normal program length and, where applicable, a short reference to the appropriateness of the degree designation and program name.
- The need by industry for such a programme.
- The need by all stakeholders (students and community) for such a programme
- The impetus for the program's development (including student demand/societal need) and how it fits with the unit/division's academic plans.
- An estimated annual enrolment of the programme.
- The approach used in the development of the proposal.
- The preliminary proposal and the financial projections which can be presented on a spreadsheet.
- Any other additional information that strengthens the case for the program may be added.

### **Programme Rationale**

Under programme rationale we need to identify what is being proposed and provide an academic rationale for the proposed program that is what is being created and why it is being created. It is also important to explain the appropriateness of the program name and degree nomenclature at this stage. The mode of delivery (including online) and how it is appropriate to support students in achieving the learning objectives of the program must also be included. It is also of paramount importance to discuss how the program addresses the current state of the discipline or area of study. Identify pedagogical and other issues giving rise to the creation of this program. We also describe the consistency of the program with the University's mission and vision. We need also to identify similar programs offered at the University and/or by other universities and describe how they may be different or similar from the current program.

## **Need and Demand**

Under need and demand it is important to provide a brief description of the need and demand for the proposed program focusing, as appropriate, on student interest, societal need, employment opportunities for prospective graduates, interest expressed by potential employers, professional associations, government agencies or policy bodies, and how this has been determined. With specific reference to the impact on need and demand, we need to describe how the proposed program relates to existing programs offered by other universities in the country or region and Internationally.

## **Admission Requirement**

Provide formal admission requirements and explain what the students must have as they enter into the programme. An explanation of how these admission requirements are appropriate for the program and how will they help to ensure students are successful. Also need to explain how do the admission requirements align with the learning outcomes of the program. Also explain any additional requirements for admission to the program such as special entry or mature entry, minimum grade point average, special language and how the program recognises prior work or learning experience.

## **Programme Requirements**

Describe in detail the requirements of the program and provide, as an appendix, a clear and full calendar copy that includes an exact program description as it will appear in the calendar including all required courses and recommended electives and their prerequisites. Provide a full list of all the courses included in the program including course numbers, titles, and descriptions.

## **Learning Outcomes**

A detailed description of the learning outcomes of the program is needed, i.e., describe what the learner will know or be able to do by the end of a defined period of time and indicate how that knowledge or skill will be demonstrated. Specifically, refer to the knowledge, methodologies and skills students will have acquired by the time they complete the program.

### **Assessment of Learning**

Describe how the methods for assessing student achievement are appropriate and effective relative to established program learning outcomes and degree-level expectations. It must be clear, how will the teachers or lecturers be able to determine whether students have learned and can do what we expect them to by the end of the program. Also need to describe how the effectiveness of the proposed program be assessed and how will the program document and demonstrate the level of performance of students consistent with the University's mission and vision.

### **Conclusion**

Other important issues that need to be addressed include consultations within the institution and outside the institutions. Learning resources, space and infrastructure for the effective running of the programme also need to be addressed. Teaching assistants, quality assessment and the governance process needs to be looked into as well. The designed programme must fit into the mission and vision of the university. It should address the need of the country, industry and students. The programme's outcomes, structure, design, administration and accreditation should be clearly outlined.

**Key Words:** Operation Research, Programme, Programme Rationale, Output, Assessment.

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