

**Indian Institute of Technology Guwahati**  
**Proposal for a New Course/ Revision of a Course**

Course Number & Title: BM 664H & System Dynamics and Reliability Engineering	
L-T-P-C: 4-0-0-4	
Type of Letter Grading (Regular Letter Grades / PP or NP Letter Grades): Regular Letter Grades	
Kind of Proposal (New Course / Revision of Existing Course): New Course	
Offered as (Compulsory / Elective): Elective	
Offered to: Masters of Business Administration (MBA)	
Offered in (Odd/ Even / Any): Any	
Offered by (Name of Department/ Center): School of Business	
Pre-Requisite: NIL	
Preamble / Objectives (Optional):	
<p>Course Content/ Syllabus (as a <i>single paragraph</i> if it is not containing more than one subject. Sub-topics/ Sections may be separated by commas(,). Topics may be separated by Semi-Colons(;). Chapters may be separated by Full-Stop(.). While starting with broad heading, it may be indicated with Colon symbol before the topics. For example: <i>Multi-variable Calculus: Limits of functions, Continuity</i>)</p> <p>Univariate extreme distributions: Weibull, Gumbel, Frechet as GEVD; Limit distributions of exceedances and shortfalls; Multivariate extremes; Introduction to reliability engineering; Product life cycle conditions; Fault tree analysis; Product requirement and constraints; Process control, experimentation, improvement in collaborative work; Life cycle conditions; Reliability Capability; Failure mode effect analysis; Design for reliability; Reliability estimation techniques; Burn in strategies; System reliability modelling; Reliability prognostics; Reliability prognostics; Warranty analysis</p>	
Books (In case UG compulsory courses, please give it as "Text books" and "Reference books". Otherwise give it as "References".)	
Texts: (Format: Authors, <i>Book Title</i> in <i>Italics font</i> , Volume/Series, Edition Number, Publisher, Year.)	
1.	Kapur, K. C., & Pecht, M., <i>Reliability Engineering</i> , Wiley series in systems engineering and management, 2014.
2.	Castillo, E., Hadi, A. S., Balakrishnan, N., & Sarabia, J. M., <i>Extreme Value and Related Models with Applications in Engineering and Science</i> , Wiley Interscience, 2004.