List of books dedicated to propagation in dielectric waveguides, in particular in optical fibers.

General information on optical fibers and their environment

- **Fiber Optics Handbook, by Christian Hentschel, 3rd Edition, 1989**
  Publisher : Hewlett Packard GmbH, ISBN-13 : 978-3980167703 ISBN-10 : 3980167704

An alphabetic index providing clear and simplified definitions and descriptions of number of technical terms commonly used in the domain of fiber optics technology and measurement techniques.

Theoretical basis on mode calculations in optical waveguides and fibers

- **Fundamentals of optical waveguides, by Katsunari Okamoto (Okamoto Lab, Ibaraki, Japan), 2006**
  Elsevier Editor, ISBN 13 : 978-0-12-525096-2 ISBN 10 : 0-12-5255096-7

A good level scientific book, understandable (for a large part) by students of master level, covering the following topics : wave theory in planar waveguides and optical fibers, coupled mode theory, main non linear effects in optical fibers, simulation methods (finite elements method, beam propagation method…), planar circuits

- **Photonics : optical electronics in modern communications by Amnon Yariv and Pochi Yeh (Oxford University), 6th edition, 2007**
  Oxford University press Editor, ISBN-13 : 978-0195179460, ISBN-10: 0195179463

Another book with a scientific level appropriate for students of master class, which could be useful for students of EMIMEO course. It covers a wide range of topics dealing with optoelectronics, optical communications and optic communications. Concerning the part on "propagation in optical fibers", students can focus on chapter 1 (Electromagnetic fields and waves, pages1 to 65), chapter 3 (guided waves in dielectric slabs and fibers, pages 110 to 155) and chapter 7 (chromatic dispersion and polarization mode dispersion in fibers, pages 313 to 353).

- **Theory of dielectric waveguides, by Dietrich Marcuse (Bell Labs, Holmdel New Jersey, USA), 1974**
  Academic Press, ISBN 0-12-470950-8

One of the very first reference book on propagation in dielectric waveguides, including in particular a detailed theoretical analysis of mode structures in rectangular and cylindrical waveguides, followed by a in depth study of mode coupling theory. Higher theoretical level than the two previous bools.

- **Optical Fibers, by Takanori Okoshi (university of Tokyo, Japan), 1982**
  Academic Press, ISBN 0-12- 525260-9

THE reference book for the detailed calculation of the field distribution in optical fibers (chapter 4). The notations of this book are those chosen for the course by D. Pagnoux. However, note that several chapters on characterization techniques and on fiber performances are now outdated.

Specialty fibers

- **Specialty optical fibers handbook, by A. Mendez (MCH Engineering, Alameda, Ca, USA) and T.F. Morse (Boston University, USA), 2007**
  ISBN 13: 978-0-12-369406-5 ISBN 10 : 0-12-369406-X

A comprehensive book covering a very large range of topics : light guiding fundamentals (chap 2), materials and fabrication techniques (chap 3), dispersion shifted and specialty single mode fibers (chaps 5,6), polarization maintaining fibers (chap 8), amplifying fibers (chaps 7, 9), novel fibers such as hollow core fibers (chaps 10, 13)…