**MTM410029 Functional Analysis**

Pre-requisite: Linear Algebra and Analysis

Weekly lesson hours: 06h

**Discipline syllabus:** Normative spaces, spaces with internal product, fundamental theorems for normed spaces, spectral theory for linear operators in normed spaces and spectral theory for compact operators in normed spaces.

**BIBLIOGRAPHIC  REFERENCES**

1.  Erwin Kreyszig, *Introductory Functional Analysis with Applications*, John Wiley, 1989.

2.  Conway, John B., *A Course in Functional Analysis*, 2nd edition, Springer-Verlag, 1994.

COMPLEMENTARY BIBLIOGRAPHY

1.  Dunford, N.; Schwartz, J. T., *Linear Operators. Part 1 and 2*, John Wiley
2.  Eidelman, Yuli, Vitali Milman, and Antonis Tsolomitis, *Functional Analysis: An Introduction*, American Mathematical Society, 2004.
3.  Hirsch F., Lacombe G., *Elements of Functional Analysis*, Springer 1999.
4.  Kolmogorov, A. N., Fomin, S. V., *Elementos da Teoria das Funções e de Análise Funcional*. Mir, 1982.
5.  Rudin, W. K., *Functional Analysis*, Boston, McGraw-Hill, 1991.
6.  Pietsch, Albrecht, *History of Banach spaces and linear operators*, Birkhauser Boston Inc., 2007.