UNIVERSIDADE FEDERAL DE SANTA CATARINA
CENTRO DE CIÊNCIAS FÍSICAS E MATEMÁTICAS
PÓS-GRADUAÇÃO EM MATEMÁTICA PURA E APLICADA

MTM510013 Theory of Semigroups and Applications in PDE's

Pre-requisite: MTM510012 Distribution Theory and Sobolev spaces

Weekly lesson hours: 06h

Discipline syllabus: Semigroups of Class Co, Hille Yosida's Theorem, Dissipative Operators, Lumer-Phillips Theorem, Stone Theorem, Compact Semigroups, Analytic Semigroups, Disruption Theory, Abstract Cauchy Problem (Homogeneous and Nonhomogeneous), Applications Partial Differential Equations .

BIBLIOGRAPHIC REFERENCES

Text book:

1. Pazy, Semigroups of Linear Operations and Applications to PDE, Applied Mathematical Sciences, Vol. 44, Springer Verlag, New York, 1983.
2. M. Gomes, Semigrupos de Operadores Lineares e Aplicações às Equações de Evolução, 2ª edição, Textos de Métodos Matemáticos 19, IM-UFRJ, 1999.

COMPLEMENTARY BIBLIOGRAPHY

1. L. C. Evans, Partial Differential Equations, Graduate Studies in Mathematics, V. 19, AMS, 1998.
2. J. A. Goldstein, Semigroups of Linear Operators and Applications, Oxford University Press, N.Y, 1985.
3. S. Kesavan, Topics in functional analysis an applications, New York: Wiley, 1989.
4. Z. Liu and S. Zheng; Semigroups associated to dissipative systems, Chapman & Hall/CRC Boca Raton, FL. Research Notes in Mathematics, vol. 398, 1999.
5. J. E. M. Rivera, Semigrupos e Equações Diferenciais Parciais, Série de Textos de Pós Graduação, Petrópolis, 2007.