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

MTM510051 Von Neuman Algebras

Pre-requisite: MTM510011 Operator Algebras

Weekly lesson hours: 06h

Discipline syllabus: Topologies in operator algebras, the double commutator theorem, factors and their classification via projections, Tomita-Takesaki theory, type III factors, cross products.

BIBLIOGRAPHIC REFERENCES

Text book:

1. Sunder, V. S. An invitation to von Neumann algebras. Universitext. Springer-Verlag, New York, 1987.

COMPLEMENTARY BIBLIOGRAPHY

1. Alfsen, E. M.; Shultz, F. W. State spaces of operator algebras. Basic theory, orientations, and C*-products. Mathematics: Theory & Applications. Birkhäuser Boston, Inc., Boston, MA, 2001.
2. Arveson, W. An invitation to C*-algebras. Graduate Texts in Mathematics, No. 39. Springer-Verlag, New York-Heidelberg, 1976.
3. Connes, Alain. Noncommutative geometry. Academic Press, Inc., San Diego, CA, 1994.
4. Dixmier, J. von Neumann algebras. North-Holland Mathematical Library, 27. North-Holland Publishing Co., Amsterdam-New York, 1981.
5. Kadison, R. V.; Ringrose, J. R. Fundamentals of the theory of operator algebras. Vol. II. Advanced theory. Graduate Studies in Mathematics, 16. American Mathematical Society, Providence, RI, 1997.
6. Sakai, S. C*-algebras and W*-algebras. Reprint of the 1971 edition. Classics in Mathematics. Springer-Verlag, Berlin, 1998.
7. Takesaki, M. Theory of operator algebras. I. Encyclopaedia of Mathematical Sciences, 124. Operator Algebras and Non-commutative Geometry, 5. Springer-Verlag, Berlin, 2002.
8. Takesaki, M. Theory of operator algebras. II. Encyclopaedia of Mathematical Sciences, 125. Operator Algebras and Non-commutative Geometry, 6. Springer-Verlag, Berlin, 2003.