

UMBC Equivalents of Kassel Courses in Mathematics

| Kassel course | Kassel SWS | UMBC course | UMBC credits |
|--|---------------|-----------------|-----------------|
| Seminar | 2+0 | MATH 390 | 2 |
| BG5 Linear Algebra II | 4+2 | MATH 221 or 290 | 5 |
| BW1 Algebraic Topology | 2+1 | MATH 490 | 3 |
| BW2 Approximation Theory | 2+1 | MATH 490 | 3 |
| BW3 Coding Theory | 2+1 | MATH 490 | 3 |
| BW4 Computer Algebra I | 2+1 | MATH 490 | 3 |
| BW5 Differential Geometry | 2+1 | MATH 423 | 3 |
| BW6 Elementary Algebraic Geometry | 2+1 | MATH 490 | 3 |
| BW7 Elementary Number Theory | 2+1 | MATH 413 | 3 |
| BW8 Complex Analysis | 2+1 | MATH 410 | 3 |
| BW9 Galois Theory | 2+1 | MATH 490 | 3 |
| BW10 Ordinary Differential Equations | 2+1 | MATH 225 | 3 |
| BW11 Groebner Bases | 2+1 | MATH 490 | 3 |
| BW12 Hilbert Space Methods | 2+1 | MATH 490 | 3 |
| BW13 Integral Equations | 2+1 | MATH 490 | 3 |
| BW14 Cryptography | 2+1 | MATH 490 | 3 |
| BW15 Linear Systems Theory | 2+1 | MATH 487 | 3 |
| BW16 Numerics II | 2+1 | MATH 441 or 490 | 3 |
| BW17 Potential Theory | 2+1 | MATH 490 | 3 |
| BW18 Sobolev Spaces | 2+1 | MATH 490 | 3 |
| BW19 Stochastics II | 2+1 | MATH 484 | 3 |
| BW20 Topology | 2+1 | MATH 421 | 3 |
| BW21 Vector Analysis | 2+1 | MATH 490 | 3 |
| BV1 Algebraic Curves and their Function Fields | 4+2 | MATH 490 | 5 |
| BV2 Algebraic System Theory | 4+2 | MATH 490 | 5 |
| BV3 Algorithmic Commutative Algebra | 4+2 | MATH 490 | 5 |
| BV4 Algorithmic Number Theory | 4+2 | MATH 407 | 5 |
| BV5 Applied Statistics | 4+2 | STAT 454 | 5 |
| BV6 Computer Algebra II | 4+2 | MATH 490 | 5 |
| BV7 Differential Algebra | 4+2 | MATH 490 | 5 |
| BV8 Dynamical Systems I | 4+2 | MATH 490 | 5 |
| BV9 Elliptic Problems | 4+2 | MATH 490 | 5 |
| BV10 Evolution Equations | 4+2 | MATH 490 | 5 |
| BV11 Functional Analysis | 4+2 | MATH 490 | 5 |
| BV12 Geometric Complex Analysis | 4+2 | MATH 490 | 5 |
| BV13 Hydrodynamic Potential Theory | 4+2 | MATH 490 | 5 |

| | | | |
|--|-----|----------|---|
| BV14 Introduction to Parallel Computing | 2+1 | MATH 447 | 3 |
| BV15 Measure and Probability Theory | 4+2 | MATH 490 | 5 |
| BV16 Mathematical Fracture Mechanics | 2+1 | MATH 490 | 5 |
| BV17 Mathematical Statistics | 4+2 | STAT 453 | 5 |
| BV18 Numerical Methods for Ordinary Differential Equations | 4+2 | MATH 490 | 5 |
| BV19 Numerical Methods for Systems of Linear Equations | 4+2 | MATH 490 | 5 |
| BV20 Optimization | 4+2 | MATH 490 | 5 |
| BV21 Parallel Computing for Partial Differential Equations | 2+1 | MATH 490 | 3 |
| BV22 Partial Differential Equations | 4+2 | MATH 404 | 5 |
| BV23 Stochastic Processes I | 4+2 | MATH 452 | 5 |
| BV24 Summation Algorithms | 4+2 | MATH 490 | 5 |
| BV25 Calculus of Variations with Applications to PDEs | 4+2 | MATH 490 | 5 |