

**MTH 221 CALCULUS AND ANALYTIC GEOMETRY I**

Basic theory of differential calculus through the concepts of limits and continuity are the goals of this course. Necessary analytic geometry is developed as required. Algebraic and trigonometric functions, curve sketching and applications to real world problems (including maximum/minimum problems), The Mean Value Theorem, and its consequences are covered. 1 c.u.

*Prerequisite: MTH 113 with a grade of C or higher.*

**MTH 222 CALCULUS AND ANALYTIC GEOMETRY II**

This is an introduction to the integral calculus and its application to the solution of real world problems. Integration of exponential, logarithmic and trigonometric functions, techniques of integration, and an introduction to differential equations are covered. 1 c.u.

*Prerequisite: MTH 221.*

**MTH 223 CALCULUS AND ANALYTIC GEOMETRY III**

The study of calculus is continued through sequences and series, multivariable functions and their derivatives, multiple integrals and vector valued functions, Green's Theorem, and Stokes' Theorem. Applications using the graphing calculator are included. 1 c.u.

*Prerequisite: MTH 222.*

**MTH 310 NUMBER THEORY**

This is a formal study of the integers through prime numbers, divisibility, congruencies, Euler's function and quadratic reciprocity. 1 c.u.

*Prerequisite: MTH 222.*

**MTH 320 DIFFERENTIAL EQUATIONS**

The focus of this course is the solution of differential equations. Topics include: separation of variables, homogeneous equations, integrating factors, linear and higher order equations and applications via classical and computer based methods. 1 c.u.

*Prerequisite: MTH 222.*

**MTH 330 GEOMETRY**

This is an axiomatic approach to geometry which compares various analyses of Euclid's fifth postulate resulting in non-Euclidian geometries. Several finite geometries are studied. 1 c.u.

*Prerequisite: MTH 222.*

**MTH 331 FOUNDATIONS OF MATHEMATICS**

This is a study of the development of concepts and tools used in abstract mathematics. Emphasis is on writing proofs, logic, set theory, formal axiom systems, and the real number system from an axiomatic point of view. 1 c.u.

*Prerequisite: MTH 222.*

**MTH 332 DISCRETE MATHEMATICS**

Topics in this course include: elementary set theory, permutations and combinations, discrete functions, relations and graphs, trees, counting procedures and Boolean Algebra. Application of these topics in computer science will be covered. 1 c.u.

*Prerequisite: MTH 113.*

**MTH 337 LINEAR ALGEBRA**

This is a course in the abstract mathematics sequence. Topics include: systems of linear equations, matrices, vectors, linear transformations, bases, linear independence, orthogonality eigenvectors and eigenvalues. 1 c.u.

*Prerequisite: MTH 331.*

**MTH 415 ABSTRACT ALGEBRA**

This is the final course in the abstract mathematics sequence. Topics include: groups, rings, fields, integral domains, isomorphisms, homomorphisms, sub group structure of finite groups. 1 c.u.

*Prerequisite: MTH 337.*

**MTH 423 ADVANCED CALCULUS**

This course is a rigorous treatment of the basic concepts of calculus including limits, continuity, differentiation, and the Riemann integral. Properties of the real number system, and extensions of the Mean Value Theorem are also considered. 1 c.u.

*Prerequisite: MTH 223.*

# Nursing

DIVISION OF  
NURSING

In addition to the courses below, students in the Nursing major are also required to take the following General Education courses (see pages 51-54).

- ENG 106 Writing & Analysis I: English Composition  
ENG 107 Writing & Analysis II: Literature  
ENG 208 Sophomore Core – Social Responsibility  
CMP 102 Fundamental Computer Literacy I (0.5 c.u.)  
ECN 102 Introduction to Economics (0.5 c.u.)  
MTH 113 College Algebra & Trigonometry  
AAC course Arts as Catalyst (1 c.u.)  
HUM GELS Humanities GELS (2 c.u.s)  
CAT/HUM GELS (1 c.u.)  
Creative Arts & Technology GELS or  
Humanities GELS  
General Education Electives (2 c.u.s)

Many courses have prerequisites which are listed in the course description. Please be sure that necessary prerequisites have been taken before enrolling in any course.

The College accepts freshman applicants, transfer students, and R.N.'s who are graduates of Associate degree and diploma programs. Freshmen and transfer students may apply to the Nursing major. Listed below are the admission criteria which apply to freshman applicants and transfer applicants.

**Nursing Major Requirements**

The courses for the major, in addition to the General Education requirements consist of the following:

- BIO 200 Microbiology  
BIO 205 Human Anatomy & Physiology I  
BIO 206 Human Anatomy & Physiology II  
CHM 120 Fundamentals of Inorganic, Organic, & Biochemistry  
NUR 225 Professional Role Development  
NUR 255 Nursing Research  
NUR 307 Health Promotion I\*  
NUR 312 Pathophysiology  
NUR 327 Health Promotion II\*  
NUR 336 Nursing Interventions\*  
NUR 357 Pharmacology  
NUR 402 Nursing Practice in Secondary & Tertiary Prevention\*  
NUR 404 Care Management  
NUR 406 Professional Nursing Practice\*  
PSY 100 General Psychology  
PSY 245 Statistics for the Behavioral Sciences  
or  
MTH 200 Applied Statistics I  
SOC 100 Introduction to Sociology

\* Includes clinical component. Students are responsible for own transportation to clinical sites. Some community-based clinicals require own vehicle for visiting nurse/home care experiences.

### Criteria for Admission to the Nursing Major

Admission to the nursing major formally begins with entry into NUR 225 Professional Role Development. In order to qualify for the major, all students must have completed the following requirements:

1. GPA of 2.5 required to enter the major.
2. The following six courses: ENG 106, ENG 107, MTH 113, BIO 200, CHM 120, and PSY 245/MTH 200, all with minimum grade of C.
3. A student who repeats more than three of the required courses (ENG 106, ENG 107, MTH 113, BIO 200, CHM 120, and PSY 245/MTH 200) cannot enter the major.
4. A pre-entry standardized examination is required for admission into the nursing major. The examination must be taken in the semester prior to admission into NUR 225. The standardized examination may only be repeated once. The selection process is competitive and may result in students being placed on a waiting list for admission into the major.

### Criteria for Admission to the Nursing Major for College Transfer Students

Students may transfer course credits from other colleges or universities. The following stipulations apply:

- A. Minimum GPA of 2.5.
- B. Transfer of nursing courses subject to evaluation by the Division of Nursing. Transfer of non-nursing courses subject to College policy. See policy on page 240.
- C. Refer to criteria for Admission to the Nursing Major in 2, 3, & 4 above.

### Additional Requirements for the Nursing Major

1. Health clearance must be obtained from the College Health Service every year. Students are not eligible to participate in clinical nursing experiences if health requirements are not met.
  2. Students enrolled in clinical courses must provide evidence of current American Heart Association CPR certification.
  3. All Nursing students are required to have criminal history background checks.\* Clinical agencies accredited by JCAHO require criminal background checks for all individuals engaged in patient care. If a student is denied clinical placement by any clinical agency due to criminal history information, that student will be withdrawn from the Nursing major.
- \* Additional fees may be required

### Requirements for Progression in the Nursing Major

Students may progress to successive courses based upon their ability to demonstrate:

- A. Satisfactory academic achievement of grades of C or better in nursing courses.
- B. Satisfactory completion of clinical objectives as measured by the clinical evaluation tool. A clinical failure constitutes a failure in the entire course!
- C. Once a student is admitted to the major, if the student must repeat a fourth course (including prerequisites, corequisites, or course designated as NUR), the student cannot continue in the major.
- D. Only one nursing course (NUR designation) may be repeated once. A withdrawal or grade of C- or below on the second attempt necessitates withdrawal from the major.

- E. All nursing courses must be taken in sequence (completion of all sophomore level courses before beginning junior level, completion of all junior level courses before beginning senior level).

### Requirements for Licensure

Senior level nursing students must successfully complete all course requirements of the major in order to obtain the BS degree. In order to be endorsed by the College to sit for the NCLEX (licensure) examination, the students must fulfill the following additional requirements. If these requirements are not met, the Division of Nursing reserves the right to deny endorsement to sit for the NCLEX examination.

- A standardized comprehensive exam will be given to all graduating seniors at the end of the spring semester in order to assess readiness to sit for the NCLEX. Students who perform satisfactorily will be endorsed by the Nursing Division. Unsuccessful students may repeat the standardized comprehensive exam until they are successful.
- All students must provide the documentation of successful completion of a Division-approved NCLEX review course before receiving endorsement to sit for the NCLEX.

### New Jersey Board Requirements

The State Board of Nursing determines who is eligible to take the Registered Nurse examination (NCLEX-RN). Graduation from the Nursing program satisfies one of the eligibility requirements. There are other eligibility requirements as well. Since eligibility requirements may vary, candidates should consult with the Board of Nursing of the state in which they plan to take the Registered Nurse examination.

### RN Student Applicants

Bloomfield College will accept coursework taken at other accredited institutions for credit toward the degree, provided it meets the College criteria.

A maximum of 16 course units may be earned through CLEP, Excelsior College Examinations, and evaluation of previous nursing courses.

The Nursing Core requires that each RN must enroll in the following courses:

- NUR 225RN - Professional Role Development
- NUR 255RN - Nursing Research
- NUR 307RN - Health Promotion I
- NUR 327RN - Health Promotion II
- NUR 404RN - Care Management
- NUR 406RN - Professional Nursing Practice

All College and General Education requirements MUST be met, even if additional courses may be required.

In accordance with the Bloomfield College residency policy, a transfer student must take at least eight course units at Bloomfield College to graduate.

### Criteria for Admission to the Nursing Major for RNs

1. Minimum GPA of 2.5.
2. Transfer of nursing courses subject to evaluation by the Division of Nursing. Transfer of non-nursing courses subject to College policy. See policy on page 240.
3. Show proof of RN licensure in the State of New Jersey. RNs licensed in other states must obtain New Jersey licensure.
4. Forward copies of liability/malpractice insurance with minimum coverage of \$1,000,000/\$3,000,000.