Pre-Medicine

Health Sciences Advisor: Katie Meyer
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It is our goal at UND to prepare students for any medical school in the country. Our undergraduates have been accepted at over 40 medical schools in the United States, Canada and England. Seats in medical school entering classes are limited – all together less than 21,600 seats are available across the country each year. The national ratio of qualified applicants per available seat is approximately 3:1. Regionally, however, the ratio is closer to 5:1. Getting accepted into any medical school is done through a highly competitive, two stage application process. It is extremely important that you are well prepared and able to present the best possible application to medical schools when you apply - good planning is key!

The Pre-Medicine Program* is not a major or degree granting program at UND. In order to graduate with a degree from UND, you will need to:

- Choose a Major and complete the specific requirements determined by the department responsible for that major
- Complete the Essential Studies Requirements
- Complete 120 semester credits (36 of which must be upper divisional credits)

You will be assigned two advisors while pursuing your degree and the Pre-Medicine Program at UND:

- A major advisor (from your major department) to help with the planning of your major curriculum
- A Health Sciences Advisor (from the College of Arts & Sciences) to help with all aspects of medical school preparation

**Joining** the Pre-Medicine Program is easy!

1. Incoming freshmen students should plan to attend Summer Orientation - you can declare Pre-Med at that time
2. Current or transfer students can declare Pre-Med by stopping in the A&S Advising Office or by calling 701.777.4974

**Staying** in the Pre-Medicine Program is hard!

1. **Incoming Freshmen** must:
   - Attend all freshmen group advising meetings during the fall semester
   - Attend one freshmen group advising meeting during the spring semester
   - Complete the following courses with a grade of C or better before the start of sophomore year:
     - Biol 150 & 151 with labs
     - Math 103 (may test out of this with an ACT Math score of 26 or appropriate Math placement test score)
     - Chem 121 & 122 with labs
   - Maintain a cumulative GPA of 3.400 or higher during freshman year
2. **Transfer students or current students switching** to Pre-Medicine after freshman year must:
   - If not already completed at UND or transferred in, complete the following courses with a grade of C or better:
     - Biol 150 & 151 with labs
     - Math 103
     - Chem 121 & 122 with labs
   - Maintain a cumulative GPA of 3.400 or higher
3. **All continuing Pre-Medicine students** must:
   - Take Pre-Medicine courses as advised
   - Prepare for and take the MCAT
   - Maintain a cumulative GPA of 3.400 or higher

*If you are currently a non-UND undergraduate student (attending and planning to graduate from another undergraduate institution), and would like information specifically about the UND School of Medicine and Health Sciences, you should:
- contact the UND SMHS Office of Admissions and Student Affairs: 701.777.4221
- contact the UND SMHS INMED Program Office (for Native American students only): 701.777.3037
Medical schools consider the following when reviewing applications:

1. Academics
   a. Undergraduate Preparation
      Admission into medical school typically requires completion of a Bachelor’s degree, or at least 90 credits from an accredited college or university. All medical schools have specific content or course prerequisites which are included in the UND Pre-Med Program (courses listed below). UND accepts AP and post-secondary transfer credits toward the completion of a bachelor’s degree in accordance with the NDUS policies of General Education Requirement Transfer Agreement (GERTA) and Common Course Numbering (CCN). UND also has numerous articulation agreements and course equivalencies with other academic institutions. You should, however, check with the medical schools on your wish list regarding the post-UND implications of any AP, IB, CIS, CLEP, on-line, distance learning, or community college work you plan to complete prior to your undergraduate matriculation.

   b. Major
      Medical schools do not require any particular major, so the choice for a major is entirely up to you! You should pick something you are good at, enjoy studying, and fits your parallel plan—something you could see yourself doing as a career—should you not go on to medical school. A list of each major and degree offered at UND may be found at: [http://und.edu/academics/registrar/fields-of-study.cfm](http://und.edu/academics/registrar/fields-of-study.cfm). Visit the Program Page of a particular major to see the opportunities and careers associated with that major, as well as coursework you will be studying with a sample four year plan.

      The combination of your major with the Pre-Medicine Program will directly contribute to the length of time it will take for you to complete an undergraduate degree at UND. Pursuing a major within the College of Arts & Sciences combined with Pre-Med can typically be finished in 4 years if both the major and Pre-Med are started freshmen year. Pursuing a major from a college other than Arts & Sciences combined with Pre-Med may take longer due to the required coursework sequencing and/or required practicums and internships. Please work with your assigned Health Sciences Advisor to determine the appropriate academic plan for your chosen major combined with the Pre-Medicine Program.

   c. GPA
      Since medical school curriculum is considerably more challenging than any undergraduate curricula, you need to leave no doubt of your academic ability by excelling at the undergraduate level. The average cumulative GPA of recent regional medical school matriculants is 3.70 - 3.80.

2. MCAT
   a. Timing
      This rigorous, full day exam is required by all medical schools. Students will typically take the MCAT in May or June of the year prior to their expected graduation (“Junior Year” if on a 4-year plan). While retakes are allowed, it is best to “do it right the first time.”

   b. Preparation
      Since considerable time needs to go into MCAT preparation (30+ hours/week), UND students are encouraged to take a lighter credit load (12 credits) during the spring semester before taking the MCAT (typically junior year) to give them room for reviewing and practice testing. UND offers an optional MCAT Review Course every spring facilitated through Kaplan. This course is billed separately and does not count for credit at UND.

   c. Scores
      The national average MCAT composite score for recent medical school matriculants was 511 (representing the 83rd percentile range).
3. Life Experiences
   a. Direct Patient Care Experience => 300-500 hours
      - Medical schools expect you to spend considerable time working in health care. You need to get a job in which you give direct medical care to patients, have a chance to observe doctors and other health care team members, and have a supervisor observing you (most medical schools require a letter of recommendation from a health care work supervisor). You may need to combine several jobs to get the experience and understanding of medicine you need.
      - Work settings can include hospital, rehab, clinic, group care home (nursing, disabled children or adults, Alzheimer’s unit, VA, etc.), hospice, home health, support services, phlebotomy, EMS, etc.
   b. Shadowing => 20-40 hours
      - The majority of hours need to be with basic care doctors: family medicine, internal medicine, pediatrics
      - A few of the hours can be with specialists
      - Be sure to include both rural and city experiences
   c. Community Service => These activities will set you apart!
      - Do things that you love, have a passion for, demonstrate your desire to serve others and give back, show your love of learning, let your leadership skills shine, etc.
      - These volunteer activities/paid jobs include, but are not limited to:
        - Lifeguards, first responders
        - Coaching/teaching sports (for park boards, travelling leagues, Special Olympics, etc.)
        - Camp counseling (church camps, day camps, medical camps, music camps, etc.)
        - Big Brother/Big Sister, Meals on Wheels, Relay for Life, etc.
        - Volunteering at your local city mission, free clinic, humane society, etc.
        - College organization participation or leadership (clubs, honor societies, sororities/fraternities, etc.)
        - College tutoring or TA positions
        - Medical missions trips (through college organizations, national organizations, or local churches)
        - Church work/sponsored activities (Sunday school teacher, youth worker, mission trips, etc.)
        - American Red Cross, Peace Corps
   d. Research => expected of students planning to attend top tier medical schools
      - UND has numerous opportunities for doing undergraduate basic science research during summer breaks or the school year – you may apply for positions that either pay or give you college credit
      - Regional hospitals, labs, companies may offer summer opportunities
      - National labs (the NIH and the CDC) have some summer positions for college students
   e. Keep a log of all hours
      - Although formal documentation is not needed, you should keep a simple personal log for all experiences/work in a notebook. Be sure to include dates, times, activities, impressions, and note any meaningful patients or experiences. You will also need to provide contact information for someone who witnessed you in each experience or circumstance, so make note of that as well!

4. Letters of Recommendation
   a. You will need 3-4 letters of recommendation or evaluation for most medical schools.
   b. Letters need to address the personal attributes and academic abilities that make you a good fit for medical school and the profession of medicine.
   c. Authors will have to include professors and health care work supervisors who know you very well.

5. Legal Record
   a. Keep legal records clean. All minors and felonies will need to be disclosed on applications.
   b. Keep university records clean. Any institutional actions for code of student conduct violations (behavioral, academic, legal, etc.) will need to be disclosed on applications.
   c. Keep personal social media sites clean (Facebook, Twitter, etc.). Be sure to demonstrate integrity, maturity, wholesomeness and good taste in all postings (verbal, photos, pictures, etc.).

6. Home State Residency
   In general, medical schools consider your home state of residency to be where you graduated high school and/or where your parent(s) currently live. You do not become a resident of a state by just attending college there!
Courses included in the **UND Pre-Medicine Program** fall into one (or more) of three categories. These categories are:

1. Requirements for most medical schools
2. Good preparation for the MCAT (as recommended by AAMC and former UND undergraduates)
3. Good electives for additional preparation for med schools (as recommended by current medical students)

The checklist below will help you keep track of your progress in the Pre-Medicine Program:

**UND Courses required by most medical schools and/or required for MCAT preparation** (all but English and Math are needed for MCAT preparation):

- Biol 150, 150L General Biology I
- Biol 151, 151L General Biology II
- Chem 121, 121L General Chemistry I
- Chem 122, 122L General Chemistry II
- Chem 341, 341L Organic Chemistry I
- Chem 342, 342L Organic Chemistry II
- BMB 301 Biochemistry
- Phys 211, 211L College Physics I
- Phys 212, 212L College Physics II
- Biol 315 Genetics
- Biol 341 Cell Biology
- A Physiology course (choose one)
  - Biol 442 Physio of Organs/Systems (for Bio majors)
  - PPT 301 Human Physiology (for other majors)
  - Math (choose one) => best to complete before Physics
  - Math 146 Applied Calculus
  - Math 165 Calculus I
  - Math 165-166 Calculus I and II
  - AP credit for Calculus
- A Statistics course (choose one)
  - Psyc 241 Psychological Statistics
  - Soc 326 Sociological Statistics
- Phys 211, 211L College Physics I
- Phys 212, 212L College Physics II
- Biol 315 Genetics
- Biol 341 Cell Biology
- A Physiology course (choose one)
  - Biol 442 Physio of Organs/Systems (for Bio majors)
  - PPT 301 Human Physiology (for other majors)
  - Math (choose one) => best to complete before Physics
  - Math 146 Applied Calculus
  - Math 165 Calculus I
  - Math 165-166 Calculus I and II
  - AP credit for Calculus
- A Statistics course (choose one)
  - Psyc 241 Psychological Statistics
  - Soc 326 Sociological Statistics
- Upper-level writing intensive course (non-science)
  - Psyc 111 Introduction to Psychology
  - Psych 250 Developmental Psychology
  - Psych 270 Abnormal Psychology
- Upper-level writing intensive course (non-science)
  - Psyc 111 Introduction to Psychology
  - Psych 250 Developmental Psychology
  - Psych 270 Abnormal Psychology
- Upper-level writing intensive course (non-science)
  - Psyc 111 Introduction to Psychology
  - Psych 250 Developmental Psychology
  - Psych 270 Abnormal Psychology
- Upper-level writing intensive course (non-science)
  - Psyc 111 Introduction to Psychology
  - Psych 250 Developmental Psychology
  - Psych 270 Abnormal Psychology

**UND courses to take as good electives for medical school preparation** (take as many as desired – all are optional):

- Anat 204, 204L Anatomy for Paramedical Personnel
- Biol 369, 369L Histology
- Biol 390 Endocrinology
- Biol 415 Genomics
- Biol 420 Neuroscience
- MBio 302 General Microbiology
- MBio 328 Introduction to Immunology
- N&D 240 Fundamentals of Nutrition
- Phil 120 Introduction to Ethics
- Comm 212 Interpersonal Communication
- Mgmt 300 Principles of Management
- Econ 201 Microeconomics
- Foreign Language
  - Spanish, French, German, Norwegian, Chinese, Latin
- Med 205 Medical Terminology
Your course schedule at UND will vary depending on your major. The chart below shows complete major and Pre-Medicine science and math course schedules for both Biology and Chem/Biochem majors. For students pursuing other majors, since only the science and math Pre-Medicine courses are listed, they will need to “pencil in” their major requirements as well. Also, all UND students will need to add any additional major requirements, Essential Studies requirements, and other electives to each semester in the schedules below as needed or desired:

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
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<tr>
<td>Bio majors:</td>
<td>Bio majors:</td>
<td>Bio majors:</td>
<td>Bio majors:</td>
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<tr>
<td>• Biol 120</td>
<td>• Biol 341, 341L</td>
<td>• Physics 211, 211L</td>
<td>• Biol 480</td>
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<tr>
<td>• Biol 150, 150L</td>
<td>• Biol 315</td>
<td>• Biol 442, 442L</td>
<td>• Biol requirement**</td>
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<tr>
<td>• Chem 121, 121L</td>
<td>• Chem 333, 333L</td>
<td>• Chem 333, 333L for minor?</td>
<td>• Anat 204, 204L or other Biol requirement**</td>
</tr>
<tr>
<td>• Math 103</td>
<td></td>
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<td></td>
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<tr>
<td>Chem/Biochem majors:</td>
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<td>Chem/Biochem majors:</td>
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<tr>
<td>• Chem 101</td>
<td>• Chem 341, 341L</td>
<td>• Chem 466+R</td>
<td>• BMB 401</td>
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<tr>
<td>• Chem 121, 121L</td>
<td>• Chem 361</td>
<td>• Biol 315</td>
<td>• Chem 492</td>
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<tr>
<td>• Biol 150, 150L</td>
<td>• Chem 333, 333L</td>
<td>• Biol 442 (do not take 442L)</td>
<td>• Anat 204, 204L or other Biol elective**</td>
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<tr>
<td>• Math 103</td>
<td>• Physics 211, 211L</td>
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<tr>
<td>Other majors:</td>
<td>Other majors:</td>
<td>Other majors:</td>
<td>Other majors:</td>
</tr>
<tr>
<td>• Biol 150, 150L</td>
<td>• Chem 341, 341L</td>
<td>• Physics 211, 211L</td>
<td>• Biol elective**</td>
</tr>
<tr>
<td>• Chem 121, 121L</td>
<td>• Biol 315</td>
<td>• PPT 301 (Anat 204 is pre-req)</td>
<td>• Chem 333, 333L for minor?</td>
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<tr>
<td>• Math 103</td>
<td>• Major requirements</td>
<td>• Major requirements</td>
<td>• Major requirements</td>
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<tr>
<td>Everyone:</td>
<td>Everyone:</td>
<td>Everyone:</td>
<td>Everyone:</td>
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<tr>
<td>Courses from Group 1*</td>
<td>Courses from Group 1* or 2*</td>
<td>Courses from Group 1*, 2* or 3**</td>
<td>Courses from Group 3** or 4**</td>
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<td><strong>Spring</strong></td>
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<tr>
<td>Bio majors:</td>
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</tr>
<tr>
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<td>• Chem 341, 341L</td>
<td>• BMB 301</td>
<td>• Biol requirement**</td>
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<tr>
<td>• Math 146</td>
<td>• Biol 312, 312L?</td>
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<tr>
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<tr>
<td>• Chem 122, 122L</td>
<td>• Chem 342, 342L</td>
<td>• Chem 467</td>
<td>• Chem 495</td>
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<tr>
<td>• Biol 151, 151L</td>
<td>• Chem 362</td>
<td>• BMB 301</td>
<td>• Biol elective**</td>
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<td>• Biol 341</td>
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</tr>
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<td>• Biol 151, 151L</td>
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<td>• Phys 212, 212L</td>
<td>• Biol elective(s)**</td>
</tr>
<tr>
<td>• Chem 122, 122L</td>
<td>• Anat 204, 204L</td>
<td>• BMB 301</td>
<td>• Major requirements</td>
</tr>
<tr>
<td>• Math 146</td>
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<td>• Major requirements</td>
<td></td>
</tr>
<tr>
<td>Everyone:</td>
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<td>Everyone:</td>
</tr>
<tr>
<td>Courses from Group 1*</td>
<td>Courses from Group 1* or 2*</td>
<td>Courses from Group 1*, 2* or 3**</td>
<td>Courses from Group 3** or 4**</td>
</tr>
<tr>
<td><strong>Summer</strong></td>
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</tbody>
</table>
| *Courses in Group 1 are required for all majors: Engl 110, Engl 130, Psyc 111, Psyc 250, Psyc 270, Soc 110, Comm 110, and a Statistics class (Psyc 241 or Soc 326); additionally, the Chem/Biochem major requires a level 2 proficiency in a Foreign Language (i.e., Span 101, 102)

**Courses in Group 2 are sensible electives for all majors: Med 205, N&D 240, Phil 120, Comm 212, Mgmt 300, Econ 201, Foreign Language

**Courses from Groups 3 and 4 are options for Bio requirements/electives or electives for other majors:

Group 3 Fall courses: Biol 378, Biol 410, Biol 364+L, Chem 333+L
Group 4 Fall courses: Biol 390, Biol 420, Biol 460, Mbio 328

Group 3 Spring courses: Mbio 302
Group 4 Spring courses: Biol 369+L, Biol 415

* Everyone: Courses from Group 1 and 2

** Everyone: Courses from Group 1, 2, 3, and 4

Life Experiences

WICHE Forms - MT, WY res only
(Complete over Spring Break)

MCAT (1st one by June 15th)

1st Med School Apps Due
(Submit to schools ASAP)

Interviews Begin
(Usually run October-February)

Take a lighter credit load (12 credits)
For MCAT prep or MCAT prep course

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