

UT Southwestern Scholars Program in Organic Chemistry

Application Process:

Please review the following application requirements carefully. All required items must be submitted together in order to be considered for the SPOC program by January 29, 2010.

- **Complete Online Application**
- **College Transcripts**
- **SAT or ACT scores**
- **Personal Statement**

A typewritten 200-300 word personal statement addressing your reasons for applying and what you hope to gain from this experience.

IMPORTANT REMINDER

Applications will not be considered complete until all of the documents listed above have been received. Applicants received after the deadline will not be considered. Facsimiles will not be accepted.

Contact:

For more information visit:
www.utsouthwestern.edu/SPOC

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UT SOUTHWESTERN

**UT Southwestern
Scholars Program in Organic Chemistry
(SPOC Program)**

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UT Southwestern Scholars Program in Organic Chemistry



UT SOUTHWESTERN

UT Southwestern Scholars Program in Organic Chemistry (SPOC)

Program Description:

The UT Southwestern Scholars Program in Organic Chemistry (SPOC) is a 10-week summer program for underrepresented minority* or disadvantaged** students conducted at UT Southwestern Medical Center from June through August 2010 which has goals to improve college students' performance in organic chemistry and to provide students with exposure to clinical medicine. The SPOC program has two components:

- 1) a 10 week course in Organic Chemistry
- 2) clinical preceptorships with practicing physicians

Organic Chemistry Instruction: A 10 week organic chemistry course will be taught. As part of this instruction, we will compare the effectiveness of teaching organic chemistry using gaming technology to standard methods of teaching organic chemistry through a randomized, research study. We will select twenty-eight students, all of whom receive a 10 week traditional classroom course in organic chemistry. Fourteen students will be administered a computer game which provides 3-dimensional, dynamic chemical structure visualization and synthesis to supplement their learning. The other group of 14 students will receive supplemental exercises of traditional written, non-dynamic, two-dimensional chemical structures and synthesis. Standardized MCAT-type chemistry questions and aptitude tests of abstract reasoning and spatial visualization are given.

Clinical Preceptorship: This component will provide students a clinical shadowing experience with a practicing physician. We will pair each of the 28 students with physician mentors who are in clinical practice at UT Southwestern or at one of its clinical affiliated hospitals, clinics or private practices.

Program Eligibility:

- Minority* or Disadvantaged** undergraduates who:
 - complete general chemistry in college by June of 2010
 - have a minimum grade of B in general chemistry
 - have never taken organic chemistry in college
- Plan to apply to medical school at completion of college
- SAT score of 1500 - 1900 or ACT score of 20 —27
- SAT or ACT scores outside this range may apply, but are given a lower priority
- Minimum college grade point average of 3.0
- Willing to participate in this research study
- Secure own housing in Dallas area for the summer of 2010 (housing not provided by UT Southwestern)
- Current immunization record
- Online HIPPA training (provided by UT Southwestern)

2010 Program Dates: May 31, - August 5, 2010

Curriculum and Clinical Preceptorships:

A 10-week organic chemistry preparatory course will be taught focusing on three specific content areas: functional groups, stereochemistry, and bonding theory. The goal of this course is to provide students with a strong foundation of the basic concepts of organic chemistry critical to successful mastering of the material. The organic chemistry course and supplemental exercises (computer game or written exercise) will take place on the campus of UT Southwestern Medical Center over a 10-week period from June to August. Classes will be taught on Tuesday/Thursday, each day for 4 hours for 10 weeks. The course curriculum is developed by UT Southwestern faculty members in the Chemistry Department. The course will be taught by doctoral students in the Biochemistry department. In addition to formal lectures, students will have supplemental exercises in organic chemistry. One-half of enrolled students will be administered a computer game which provides 3-dimensional, dynamic chemical structure visualization and synthesis to supplement their learning. The other half of enrolled students will receive the identical ten-week classroom instruction supplemented with traditional written, non-dynamic, two-dimensional exercises of chemical structures and synthesis.

Once accepted into the SPOC program, students will be placed with an area physician who most closely matches the students' interests. Shadowing times and dates will be made at the discretion of the physician (the mentor) and the SPOC program participant. SPOC participants will be expected to shadow their mentors 8 hours a week during the 10 week program (June through August).



* Underrepresented minority students are defined as designated by the American Association of Medical Colleges as being underrepresented in medicine as compared to their proportion representation in the general population (African-American, Hispanic, Mainland Puerto Rican, Native American [American Indian, Native Alaskan and Native Hawaiian]).

** Disadvantaged students are defined as designated by the Texas Joint Admissions Medical Program as financially eligible for a Pell grant and/or an Estimated Family Contribution (EFC) of up to \$8000 unless other evidence of economic disadvantaged status exists.

Research Study:

The SPOC program is a research study being conducted by faculty members at UT Southwestern. All SPOC students enrolled in this program will have the 10 week classroom instruction in organic chemistry and will be assigned to clinical preceptorships. The research study is a comparison of the supplemental exercise and involves the random assignment to one of the two organic chemistry supplemental exercises (computer game or written exercises). The goal of the study is to assess which method of teaching organic chemistry instruction is more effective in teaching knowledge of organic chemistry and in developing spatial relationship and reasoning abilities. To assess outcomes of the study, at the beginning and end of the 10-week program, all SPOC participants will be administered standardized Medical College Admissions Tests (MCAT) type questions in organic chemistry and aptitude tests of abstract reasoning and spatial visualization. Participation in this research study will be through written informed consent and the study will have been approved by the Institutional Review Board of UT Southwestern.

Participation in the research study is necessary to be a part of the SPOC program.

Program Stipends:

All SPOC program participants will be provided a stipend of \$1000 for the 10-week program. As the SPOC program will only involve 16 hours per week, students will be allowed to have concurrent summer employment outside of the SPOC program. Students interested in having summer employment while enrolled in the SPOC program will be responsible for finding their own outside employment.

Selection Process:

Eligible applicants should apply after completing their first semester of general chemistry in college. Applications will be due January 29, 2010. We will select twenty-eight students for this program. Selected applicants will be notified by March 1, 2010. When the program begins, SPOC program participants will be given their organic chemistry supplemental exercise assignment (computer game or written exercises) and their clinical preceptorship assignments. SPOC program participants will not be able to change their organic chemistry supplemental exercise assignment.

Important Dates:

Application Deadline: January 29, 2010

Notification of Selection: March 1, 2010

First Day of Program: Tuesday, June 1, 2010

Last Day of Program: Thursday, August 5, 2010