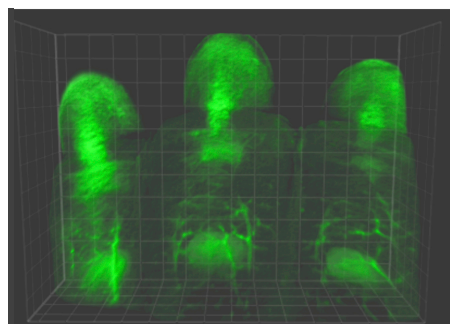


Master of Science in
Anatomy
DEGREE PROGRAM



Designed to improve your credentials for
admission to medical or dental school



3D confocal scanning of embryonic digits.
Courtesy Dr. Zongbing You

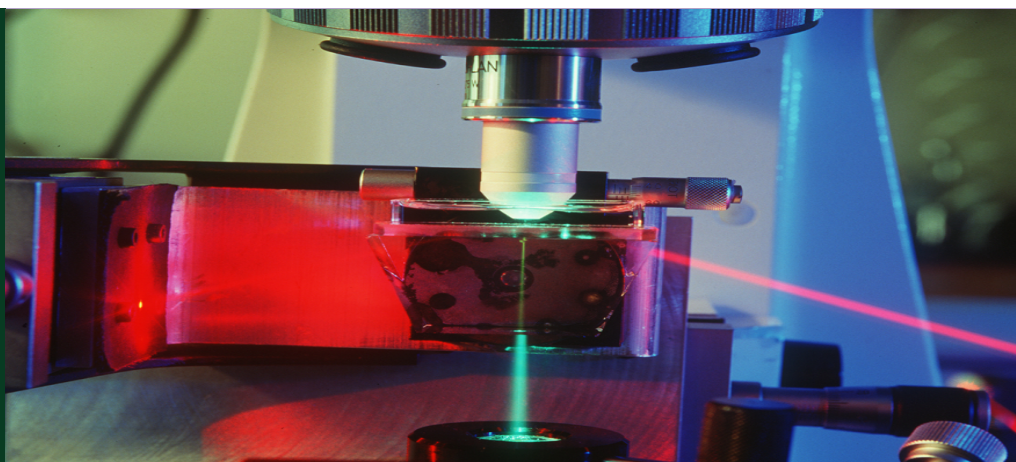
**DEPARTMENT OF STRUCTURAL AND
CELLULAR BIOLOGY**

TULANE UNIVERSITY
SCHOOL OF MEDICINE
1430 TULANE AVENUE, SL-49
NEW ORLEANS, LA 70112

tel: (504) 988 5255
fax: (504) 988 1687
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WEBSITE:
tulane.edu/som/departments/scb/

PROGRAM DIRECTOR:
Dr. R. Ettarh, MD PhD



**Master of Science in
Anatomy**
1-year post-baccalaureate program

PROGRAM OVERVIEW

This is a 1-year non-thesis program of study of cadaveric dissection-based gross anatomy, embryology, cell biology and histology, and neuroscience leading to a Master of Science degree in Anatomy. It is designed specifically for candidates who plan to attend medical school, or dental school or enroll in other professional or advanced degree programs; it serves to improve credentials to compete for admission to a medical or dental school. Class size is maintained at 20 students to maximize the small-group teaching environment. **Students in the MS program take the anatomy, histology and neuroscience course along with first year medical students at Tulane Medical School.** All other graduate courses are taught within the School of Medicine by full time Medical School faculty.

ADMISSION REQUIREMENTS

Applicants for admission to the MS in Anatomy program should have successfully completed the requirements for a baccalaureate degree. Admission is competitive and applicants should have a minimum GPA of 3.0, MCAT of 27, GRE General Test score of 1100 (for tests taken prior to August 1, 2011) or GRE revised General Test score of 310 (for tests taken on or after August 1, 2011). Applicants from Australia should have a minimum GAMSAT of 57.

APPLICATION PROCESS

The application for admission to the Master of Science degree program in Anatomy should be submitted to the Graduate Program in Biomedical Sciences along with a fee of \$50.00 payable to Tulane University. This fee is non-refundable. Applications will be reviewed as they are received and applicants will be admitted on a competitive basis. Therefore early submission of applications is highly encouraged. To apply, download application forms for the Master of Science degree program in Anatomy at the following web site: <https://www.applyweb.com/apply/tulane/>

DEGREE REQUIREMENTS

Students must take 32 credit hours of course work during the fall and spring semesters and complete the requirements for the degree.



PROGRAM CURRICULUM

Fall Semester Courses

ANAT 7065 – Graduate Anatomy (11 credits)

This course provides in-depth knowledge of gross and developmental anatomy of the whole body. Includes dissection lab.

ANAT 7120 – Anatomy Research Seminar 1 (1 credits)

Seminars in department of SCB and the Tulane Cancer Center.

ANAT 7240 – Advances in Anatomical Sciences 1 (1 credit)

Current topics in anatomical sciences research

ANAT 7350 – Anatomical Techniques (3 credits)

In-depth study of techniques in anatomical sciences including embalming, light and specialized microscopy. Includes mentoring in research lab.

Journal Club

Spring Semester Courses

ANAT 7055 – Graduate Histology (5 credits)

This course provides knowledge of the cell, basic tissues and organs in the body, as well as systems-based histology. Includes microscopy and virtual labs.

ANAT 7575 – Graduate Neuroscience (6 credits)

This course offers in-depth knowledge of the neuroanatomy and neurophysiology of the brain and spinal cord. Includes dissection lab.

ANAT-7560 – Signal transduction and hormone action (2 credits)

Current molecular mechanisms for cellular signaling including membrane receptors and downstream pathways.

ANAT 7130 – Anatomy Research Seminar 2 (2 credits)

Seminars in SCB and Tulane Cancer Center. Student is required to present one seminar.

ANAT 7250 – Advances in Anatomical Sciences 2 (1 credit)

Current topics in anatomical sciences research

Journal Club

PROGRAM CALENDAR

The M.S. in Anatomy curriculum is designed for completion within one year. Classes will start in July and end by June the following year.

TUITION

Full time tuition for the 2013-14 academic year is \$26,500 to be paid on a two-semester basis. No tuition waivers are available for this program. Students will also be charged the following estimated fees on a per semester basis: Academic Support Services (\$1300), Student Activities (\$120), Reily Recreation Center (\$130), and Student Health Services (\$320).

OUTCOMES

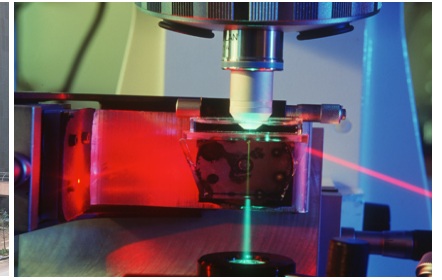
The MS in Anatomy is a program designed to enhance preparedness and eligibility into medical and dental school. It is intended that the program will be as successful as the Tulane Anatomy Certification Program which has run since 1996 in this department; students wait-listed in medical programs compete directly with first year medical students in gross anatomy, embryology, histology and neuroscience at Tulane. Eighty-seven percent of graduates from the ACP program have subsequently been accepted into medical programs all over the country including Tulane University, Louisiana State University, University of Texas-Houston, and University of Southern California. Upon graduation from medical school, graduates have been matched to residency programs in Emergency Medicine, Internal Medicine, Family Medicine, Urology, and Otolaryngology in several medical centers including Tulane Medical Center, Johns Hopkins Hospital, University of Michigan, St. Luke's-Roosevelt Hospital, University of Chicago, and Mount Sinai Medical Center, New York.



Master of Science in Clinical Anatomy Program

2-year post-baccalaureate degree program

Designed for a career in clinical anatomy



Program Overview

This is a 2-year non-thesis program of study of cadaveric dissection-based gross anatomy, embryology, cell biology and histology, and neuroscience leading to a Master of Science degree in Clinical Anatomy. It is designed specifically for candidates who wish to develop careers in teaching and research in the anatomical sciences. Class size is small to maximize the small-group teaching environment.

Students in the MS program take the anatomy, histology and neuroscience course along with first year medical students at Tulane Medical School. All graduate courses in the program are taught within the School of Medicine by full time Medical School faculty.

Admission Requirements

Applicants to the MS in Clinical Anatomy program must meet the following requirements:

1. A complete application to the Graduate Program in Biomedical Sciences along with a non-refundable fee of \$50.00 payable to Tulane University. This includes a written statement of career goals and objectives (not to exceed 1,500 words)
2. A baccalaureate degree from an accredited institution with a GPA of 3.0 or better
3. Official transcripts for all academic work (forwarded directly from each college or university)
4. Three letters of recommendation
5. The following minimum scores: GPA 3.0; MCAT 27 or DAT 16 or GRE 1100 (General Test score for tests taken prior to August 1, 2011) or GRE 310 (revised General Test score for tests taken on or after August 1, 2011). For applicants from Australia: GAMSAT 57
6. TOEFL scores for applicants from non-English-speaking nations with a minimum score of 72.

Application process

Applications will be reviewed as they are received and applicants will be admitted on a competitive basis. Therefore early submission of applications is highly encouraged. To apply, download application forms for the Master of Science degree program in Anatomy at the following web site: <https://www.applyweb.com/apply/tulane/>

Degree requirements

Students must take a minimum of 42 credit hours of course work over 4 semesters and complete the requirements for the degree.

Outcomes

The 2-year MS in Clinical Anatomy Program is designed for individuals who wish to develop and establish careers in academia as teachers of Anatomy and Physiology. The 1-year MS in Anatomy program already has a strong history, experience, and track record of students being offered interviews at medical schools in Tulane, Mercer, Lincoln Memorial, West Virginia, UT-Memphis, and LSU-New Orleans.

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email: lgoodwin@tulane.edu

WEBSITE:

tulane.edu/som/departments/scb

Program Director:

Dr. R. Ettarh, MD PhD

Program calendar

The M.S. in Clinical Anatomy curriculum is designed for completion within two years. Classes start in July and end in May of the second year.

Tuition

Full time tuition for the 2014-15 academic year is \$26,500 to be paid on a two-semester basis. No tuition waivers are available for this program. Students will also be charged the following estimated fees on a per semester basis: Academic Support Services (\$1300), Student Activities (\$120), Reilly Recreation Center (\$130), and Student Health Services (\$320).



Program Curriculum

Year 1 29 credits

Fall Semester Courses 15 credits

ANAT 7065 – Graduate Anatomy (11 credits)

This course provides in-depth knowledge of gross and developmental anatomy of the whole body. Includes dissection lab.

ANAT 7240 – Advances in Anatomical Sciences 1 (1 credit)

Current topics in anatomical sciences research.

ANAT 7350 – Anatomical Techniques (3 credits)

In-depth study of techniques in anatomical sciences including embalming, light and specialized microscopy. Includes mentoring in research lab.

Journal Club

Spring Semester Courses 14 credits

ANAT 7055 – Graduate Histology (5 credits)

This course provides knowledge of the cell, basic tissues and organs in the body, as well as systems-based histology. Includes microscopy and virtual labs.

ANAT 7575 – Graduate Neuroscience (6 credits)

This course offers in-depth knowledge of the neuroanatomy and neurophysiology of the brain and spinal cord. Includes dissection lab.

ANAT 7130 - Anatomy Research Seminar 2 (2 credits)

Seminars in SCB and the Tulane Cancer Center. Student is required to present one seminar.

ANAT 7250 – Advances in Anatomical Sciences 2 (1 credit)

Current topics in anatomical sciences research.

Journal Club

Year 2 18 credits

Fall Semester Courses 9 credits

ANAT 7410 Graduate Introductory Functional Anatomy (1 credit)

In-depth knowledge of functional anatomy. Includes assessments by program faculty.

ANAT 7750 Teaching Gross & Developmental Anatomy (3 credit)

Teaching assistance (TA) during labs, prosection, and preparation of one clinically-correlated lecture in Gross & Developmental Anatomy.

ANAT 7510 Teaching Microscopic Anatomy I (1 credit)

Teaching assistance (TA) during labs as well as preparation of one clinically-correlated lecture in Histology.

ANAT 7610 Teaching Techniques in Health Sciences (2 credit)

Study of and practice presentation by students relating to non-interactive teaching formats in health sciences education (lecture format, PowerPoint, assessment formats - paper and electronic).

ANAT 7120 – Anatomy Research Seminar 1 (1 credit)

Seminars in department of SCB and the Tulane Cancer Center.

ANAT 7630 Clinical grand rounds in Surgery (1 credits)

Weekly clinical grand rounds in the specialties of the surgery department (SOM)

Spring Semester Courses 9 credits

ANAT 7420 Graduate Systems Functional Anatomy (3 credits)

In-depth knowledge of organ systems in functional anatomy. Includes assessments by program faculty.

ANAT 7520 Teaching Microscopic Anatomy 2 (2 credit)

Teaching assistance (TA) during labs as well as preparation of one clinically-correlated lecture in Histology.

ANAT 7760 Teaching Neuroanatomy (1 credit)

Teaching assistance (TA) during Neuroanatomy labs.

ANAT 7620 Interactive Teaching Techniques (2 credits)

Study of and practice presentation by students relating to interactive teaching formats in health sciences education (tutorials, TBL, PBL, JiTT, Clickers, Turning Point, flipped classroom, virtual classrooms)

ANAT 7640 Clinical grand rounds in Medicine (1 credits)

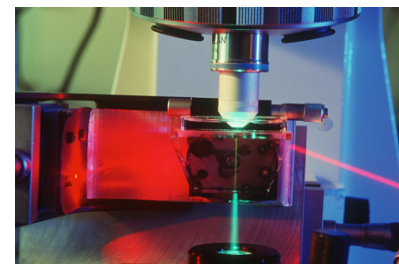
Weekly clinical grand rounds in the specialties of the department of Medicine (SOM)



Master of Science in Anatomy (Research) Program

2-year post-baccalaureate degree program

Designed for a career in biomedical research



Program Overview

This is a 2-year thesis program of study of gross anatomy, embryology, cell biology, and histology leading to a Master of Science degree in Anatomy by research. It is designed specifically for candidates who wish to develop research careers in biomedical science and medical education. In the first year, **students in the program take anatomy and histology courses along with first year medical students at Tulane Medical School.** All graduate courses in the program are taught within the School of Medicine by full time Medical School faculty. In the second year, students carry out mentored research in the Department of Structural and Cellular Biology.

Admission Requirements

Applicants to the MS in Anatomy (Research) program must meet the following requirements:

1. A complete application to the Graduate Program in Biomedical Sciences along with a non-refundable fee of \$50.00 payable to Tulane University. This includes a written statement of career goals and objectives (not to exceed 1,500 words)
2. A baccalaureate degree from an accredited institution with a GPA of 3.0 or better
3. Official transcripts for all academic work (forwarded directly from each college or university)
4. Three letters of recommendation
5. Any one of the following minimum scores: GRE 1100 (General Test score for tests taken prior to August 1, 2011) or GRE 310 (revised General Test score for tests taken on or after August 1, 2011); MCAT 27; DAT 16; for applicants from Australia: GAMSAT 57
6. TOEFL scores for applicants from non-English-speaking nations with a minimum score of 72.

Application process

Applications will be reviewed as they are received and applicants will be admitted on a competitive basis. Therefore early submission of applications is highly encouraged. To apply, download application forms for the Master of Science degree program in Anatomy at the following web site: <https://www.applyweb.com/apply/tulane/>

Degree requirements

Students must take a minimum of 43 credit hours of course work over 4 semesters and complete the requirements for the degree.

Outcomes

The 2-year MS in Anatomy by research is designed for individuals who wish to develop and establish research careers. The other tracks in the MS Anatomy program are developing a strong history, experience, and record of student success (acceptances at medical schools in Tulane, Mercer, Lincoln Memorial, West Virginia, UT-Memphis, and LSU-New Orleans).

Department of Structural and Cellular Biology, School of Medicine, 1430 Tulane Avenue, SL-49, New Orleans, LA 70112.

Tel: (504) 988 5255

Fax: (504) 988 1687

email: lgoodwin@tulane.edu

WEBSITE:

tulane.edu/som/departments/scb

Program Director:

Dr. R. Ettarh, MD PhD

Program calendar

The M.S. Anatomy (Research) curriculum is designed for completion within two years. Classes start in August and end in May of the second year.

Tuition

Full time tuition for the 2014-15 academic year is \$26,500 to be paid on a two-semester basis. No tuition waivers are available for this program. Students will also be charged the following estimated fees on a per semester basis: Academic Support Services (\$1300), Student Activities (\$120), Reilly Recreation Center (\$130), and Student Health Services (\$320).



Program Curriculum

Year 1 25 credits

Fall Semester Courses 15 credits

ANAT 7065 – Graduate Anatomy (11 credits) Dr. Jerrett
This course provides in-depth knowledge of gross and developmental anatomy of the whole body. Includes dissection lab.

ANAT 7240 – Advances in Anatomical Sciences 1 (1 credit) Dr. Dong
Current topics in anatomical sciences research. Student is required to present one seminar.

ANAT 7350 – Anatomical Techniques (3 credits) Dr. Hill
In-depth study of techniques in anatomical sciences including embalming, light and specialized microscopy. Includes mentoring in research lab.

Journal Club

Spring Semester Courses 10 credits

ANAT 7055 – Graduate Histology (5 credits) Dr. Ettarh
This course provides knowledge of the cell, basic tissues and organs in the body, as well as systems-based histology. Includes microscopy and virtual labs.

ANAT 7130 – Anatomy Research Seminar 2 (2 credits) Dr. You.

Seminars in SCB and the Tulane Cancer Center.

ANAT 7250 – Advances in Anatomical Sciences 2 (1 credit) Dr. Ettarh

Current topics in anatomical sciences research. Student is required to present one seminar.

ANAT 7560 – Signal transduction and hormone action (2 credits) Dr. Rowan
Current molecular mechanisms for cellular signaling including membrane receptors and downstream pathways
Journal Club

Year 2 18 credits

Fall Semester Courses 9 credits

ANAT 7120 – Anatomy Research Seminar 1 (1 credit) Dr. Belancio
Seminars in department of SCB and the Tulane Cancer Center.

ANAT 7810– Research Design and Methods 1 (3 credit) Dr. Anbalagan
In-depth study and practicum of research methods used in biomedical research. Includes assessments by program faculty.

ANAT 7830 – Research Project Seminar (5 credit) Dr. You
Student seminar presentation on project design and research plan.

Spring Semester Courses 9 credits

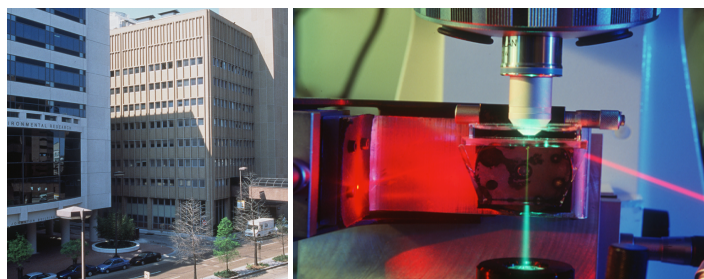
ANAT 7820 – Research Design and Methods 2 (3 credit) Dr. Zhang
In-depth study and practicum of research methods used in biomedical research. Includes assessments by program faculty.

ANAT 7840 – Research Thesis (6 credit) Dr. You
Research project and thesis.

MD/MS Combined Degree Program in Anatomy

4-year combined degree program

Designed for a career in the surgical specialties



Program Overview

This is a 4-year non-thesis program of study for medical students leading to the combined degrees: MD and Master of Science in Anatomy. This unique program is designed specifically for medical students who wish to develop careers in the surgical specialties. Enrollment into the program is limited; class size is small to maximize the small-group teaching environment. All MS anatomy graduate courses in the program are taught within the School of Medicine by full time Medical School faculty. The MD/MS program is only available to students who have earned a **baccalaureate degree and have already been accepted to Tulane's School of Medicine**. Applicants to the program must have earned a 28 or higher on the MCAT.

Eligibility

The MD/MS program is only available to students who have earned a **baccalaureate degree and have already been accepted to Tulane's School of Medicine**. Until you have earned a baccalaureate degree, you are not eligible to begin or graduate from the MD/MS in Anatomy Program. If you have already earned a medical or osteopathic degree, or are pursuing your medical degree from a school other than Tulane, you are not eligible for the MD/MS in Anatomy Program. Fourth year (T4) medical students are not eligible to begin their MS anatomy studies as part of the MD/MS combined degree program

Admission Requirements

Requirements for the MD/MS combined degree should be completed within 4 years: students **must graduate with both degrees concurrently**. Applicants to the program must maintain or have earned a minimum grade of 80% in Gross and Developmental Anatomy, Medical Histology and Neuroscience before applying to the MD/MS program. MD/MS students receive internal transfer credit from their School of Medicine coursework and are, therefore, not eligible to transfer credit from other institutions. Graduate courses taken at other institutions may not be used to waive a core requirement.

To receive the MD/MS Combined Degree, students must fulfill all requirements for graduation from both MD and MS programs before the graduation deadline.

Core requirement:

Courses in the School of Medicine MD Curriculum that provide MS Anatomy content and that MD/MS Combined Degree students are required to take include the following:

1. Gross and Developmental Anatomy (with a minimum grade of 80%)
2. Medical Histology (with a minimum grade of 80%)
3. Neuroscience (with a minimum grade of 80%)
4. Medical Physiology

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WEBSITE:

tulane.edu/som/departments/scb

PROGRAM DIRECTOR:
Dr. R. Ettarh, MD PhD

Program calendar

Start date: 2014-15 academic year

Program calendar

T1 - Medical School Courses
Summer - graduate courses, qualifying exams
T2 - Medical School Courses
Summer - graduate courses, qualifying exams
T3 - Medical School Courses
Summer - graduate courses, qualifying exams
T4 - Medical School Courses.

Tuition

MD/MS students pay tuition, academic services fees, and technology support services fees as they enroll in MS Anatomy classes



In addition to completing their School of Medicine curriculum, MD/MS Combined Degree students must also complete the following requirements:
All required coursework for the MS Anatomy program. No student may graduate without fulfilling all of the core requirements.

Application

The MD/MS program is only available to students who have earned a **baccalaureate degree and have already been accepted to Tulane's School of Medicine**. Until you have earned a baccalaureate degree, you are not eligible to begin or graduate from the MD/MS in Anatomy Program. You may not begin the application process until you have received your letter of acceptance from Tulane School of Medicine.

Application Deadline

The application priority deadline for the MD/MS in Anatomy combined degree program is March 15. All acceptances into the program must be received by March 15 to be considered for Fall admission of that year. There is a second deadline, October 15, for current first-year medical students. If you have also missed the October 15 deadline, please contact the SCB Office at 504.988.5255 to discuss your options.

Program Curriculum

Core Courses 31 credits

ANAT 7065 – Graduate Anatomy (11 credits) Dr. Jerrett

This course provides in-depth knowledge of gross and developmental anatomy of the whole body. Includes dissection lab.

ANAT 7055 – Graduate Histology (5 credits) Dr. Ettarh

This course provides knowledge of the cell, basic tissues and organs in the body, as well as systems-based histology. Includes microscopy and virtual labs.

ANAT 7575 – Graduate Neuroscience (6 credits) Dr. Blask

This course offers in-depth knowledge of the neuroanatomy and neurophysiology of the brain and spinal cord. Includes dissection lab.

ANAT 7560 – Signal transduction and hormone action (2 credits) Dr. Rowan

Current molecular mechanisms for cellular signaling including membrane receptors and downstream pathways.

ANAT 7790 Advanced Surgery-based Anatomical Dissection (5 credits) Dr. Ettarh

Anatomical dissection based on orthopedic and general surgical procedures and techniques, directed by surgery residents and faculty.

ANAT 7630 – Clinical grand rounds in Surgery (1 credit) Dr. Ettarh

Weekly clinical grand rounds in the specialties of the surgery department (SOM)

ANAT 7640 – Clinical grand rounds in Medicine (1 credit) Dr. Ettarh

Weekly clinical grand rounds in the specialties of the department of Medicine (SOM)

Optional Courses 4 credits

ANAT 7750 Teaching Gross & Developmental Anatomy (3 credit)

Teaching assistance (TA) during labs, prosection, and preparation of one clinically-correlated lecture in Gross & Developmental Anatomy.

ANAT 7760 Teaching Neuroanatomy (1 credit)

Teaching assistance (TA) during Neuroanatomy labs.
