

# Medical School: Application, MCAT & Admission

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Who am I and  
what do I know?

Some questions  
for you:

# Why are we here?

- Today, I plan to:
  - Review the application process
  - Examine & evaluate YOUR application
  - Review the MCAT and relevant information
  - Suggest a method of study
  - Assist you to establish a productive study schedule
  - Answer your questions

# Disclaimer

No absolutes in this process,  
but the data don't lie!

What % of applicants  
matriculate?

42%

18,036 matriculants out of 42,231 applicants in 2008

Table 17: MCAT Scores and GPAs for Applicants and Matriculants to U.S. Medical Schools, 1996-2007

2002	2003	2004	2005	2006	2007	2008
33,625	34,791	35,735	37,737	39,108	42,315	42,231
16,488	16,541	16,648	17,003	17,361	17,759	18,036

<http://www.aamc.org/data/facts/2008/2008mcatgpa.htm>

# Overview of application process

You **MUST** identify the strengths and weaknesses of your application before you begin!

# Homework:

[www.aamc.org/students/amcas](http://www.aamc.org/students/amcas)

*American Medical College Application  
Service*

[www.aamc.org/students/mcat](http://www.aamc.org/students/mcat)

*Medical College Admission Test*

<http://www.aamc.org/students/applying/msar.htm>

**TOMORROW'S DOCTORS**  **AAMC**

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Applying Home

MCAT

AMCAS

Fee Assistance Program

Admission to U.S. Medical Schools

Medical School Programs

**Taking the MCAT exam?**  
Take charge of your prep!

MCAT Practice Online  
Special intro offer

**Medical School Admission Requirements**  
**2009-2010**

## Medical School Admission Requirements (MSAR™)

The most authoritative guide to all U.S. and Canadian medical schools just got better with a complete redesign and more information than ever before.

The MSAR is the #1 source for:

- Newly Accredited Medical Schools:
  - Florida International University College of Medicine
  - San Juan Bautista School of Medicine
  - Texas Tech El Paso Foster School of Medicine
  - University of Central Florida College of Medicine
- Application procedures and deadlines
- Latest and most recent MCAT scores accepted
- Selection factors such as MCAT and GPA data
- Medical school class profiles
- Costs and financial aid packages
- MD/PhD and other combined degrees
- Graduates' specialty choices

**Order Information**

**[2009-2010 Errata Sheet](#)**  
Chart 5-J, *Undergraduate Major Distribution, Accepted Applicants, 1992-2007.*

## Medical School Admission Requirements (MSAR™) 2009-2010

The following resources can be helpful as you go through the application process. While not exhaustive, this list provides a comprehensive overview of information available to help you make a decision about a career in medicine.

## AMCAS - The American Medical College Application Service

[AMCAS Home](#)

[AMCAS for Applicants  
Home](#)

[Support for AMCAS 2009](#)

[Support for AMCAS 2008](#)

[About AMCAS](#)

[Contact Us](#)

### Medical School Admission Requirements

**2009-2010**

The #1 source  
for med school  
applicants

MSAR™ is the  
only resource fully  
authorized by  
medical schools.

**BUY ONE NOW**

Questions about  
financial aid for

The American Medical College Application Service (AMCAS) is a non-profit, centralized application processing service for applicants to the first-year entering classes at participating U.S. medical schools. For the 2009 entering class, [most medical schools](#) are participating in AMCAS.

AMCAS does not render any admission decisions and does not advise applicants where to apply. Each participating school is completely autonomous in reaching its admissions decisions. AMCAS provides only the application processing service. The AAMC and AMCAS neither endorse, nor have any relationship to, commercial counseling services concerned with admission to either U.S. or foreign medical schools.

Regardless of the number of AMCAS schools to which you apply, you submit just one application to AMCAS via the Web. You must also request an official transcript from each college of registration in the United States and Canada. AMCAS then assembles your application file, verifies it and forwards the application to your designated medical schools. AMCAS also sends your MCAT scores for tests taken since April 1991, provided you have released them to AMCAS.

Applicants to medical schools that do not participate in AMCAS, as well as all advanced standing and transfer applicants, should contact schools directly for application instructions. You should also contact schools directly for application information regarding joint or special programs, such as B.A./M.D., M.D./Ph.D., M.D./J.D., etc. [More >>](#)

### Related Resources

[AAMC Recommendations for Medical School Admission Officers and Medical School Applicants](#)

[American Association of Colleges of Osteopathic Medicine Application Service](#)

### Apply Now!

Start or continue your AMCAS  
2009 application  
[AMCAS 2009 Login](#)

### FAQs

[Frequently Asked Questions](#)

### Fee Assistance Program

For AMCAS applicants and  
MCAT® examinees with extreme  
financial need. [More >>](#)

### Criminal Background Checks

[About the AAMC-Facilitated  
Background Check Service](#)

### AMCAS Letters Pilot

[About the AMCAS Letters of  
Evaluation/Recommendation  
Service](#)

[AMCAS Letter Writer](#)

*<http://www.aamc.org/students/amcas/start.htm>*

# Overview of application process

- MCAT
  - Sign up dates
  - No ‘practice’ attempts!
- AMCAS
  - Will be accepted beginning ~ 4 June; submit ASAP !
- Your institution’s pre-professional office
  - Letters
  - Transcripts & judicial clearance
- Secondary applications
- Interviews

# A School's Selection Criteria from the MSAR

- Research
- Clinical experience
- Graduates' specialties
- Other factors

## Applicants and Matriculants Data

### By Institution

1. [U.S. Medical School Applications and Matriculants by School](#), State of Legal Residence, and Sex, 2007
2. [Undergraduate Institutions](#) Producing the Most Medical School Applicants, 2007

### By Legal Residence, Age, Sex

3. [Applicants to U.S. Medical Schools by State](#) of Legal Residence, 1996-2007
4. [Matriculants to U.S. Medical Schools by State](#) of Legal Residence, 1996-2007
5. [Applicants to U.S. Medical Schools by In or Out State](#) Matriculation Status, 2007
6. [Age of Applicants to U.S. Medical Schools](#) at Anticipated Matriculation by Hispanic or Latino Ethnicity, Non-Hispanic or Latino Race, and Sex, 2003-2007
7. [Applicants, First-Time Applicants, Acceptees, and Matriculants](#) to U.S. Medical Schools by Sex, 1996-2007

### By Race and Ethnicity

8. [Applicants to U.S. Medical Schools by Race, Selected Combinations within Hispanic or Latino](#) Ethnicity, and Sex, 2005-2007
9. [Matriculants to U.S. Medical Schools by Race, Selected Combinations within Hispanic or Latino](#) Ethnicity, and Sex, 2005-2007
10. [Applicants to U.S. Medical Schools](#) by Hispanic or Latino Ethnicity, Non-Hispanic or Latino Race, and State of Legal Residence, 2007
11. [Matriculants to U.S. Medical Schools](#) by Hispanic or Latino Ethnicity, Non-Hispanic or Latino Race, and State of Legal Residence, 2007
12. [Applicants, First-Time Applicants, Acceptees, and Matriculants](#) to U.S. Medical Schools by Hispanic or Latino Ethnicity, Non-Hispanic or Latino Race, and Sex, 2005-2007
13. **New!** [Race and Ethnicity Responses of Applicants](#) to U.S. Medical Schools, 2002-2007
14. **New!** [Race and Ethnicity Responses \(Alone, and In Combination\)](#) of Applicants to U.S. Medical Schools, 2002-2007
15. **New!** [Race and Ethnicity \(One Race Response\)](#) of Applicants to U.S. Medical Schools, 2002-2007
16. **New!** [Applicants to U.S. Medical Schools by Race and Ethnicity, Selected Combinations](#), 2002-2007

# Numerical Selection Criteria

need further assistance or have additional inquiries.

Applicants, 2008	MCAT VR		MCAT PS		MCAT BS		MCAT WS			GPA science		GPA non-science		GPA total		Total by Major
	Mean	Stdev*	Mean	Stdev	Mean	Stdev	25th %ile	Median	75th %ile	Mean	Stdev	Mean	Stdev	Mean	Stdev	
Biological Sciences	8.9	2.2	9.2	2.3	9.8	2.1	M	O	Q	3.41	0.44	3.66	0.30	3.51	0.36	21,889
Humanities	9.8	2.0	9.5	2.1	10.0	2.0	O	Q	R	3.37	0.47	3.64	0.30	3.52	0.33	2,048
Math and Statistics	9.6	2.1	10.4	2.2	10.2	2.0	M	P	Q	3.49	0.37	3.61	0.32	3.54	0.33	377
Other	8.8	2.3	9.1	2.3	9.5	2.2	M	O	Q	3.39	0.46	3.64	0.31	3.50	0.36	6,836
Physical Sciences	9.3	2.1	10.4	2.2	10.1	2.0	N	P	Q	3.46	0.42	3.59	0.33	3.51	0.35	4,753
Social Sciences	9.4	2.1	9.2	2.2	9.6	2.1	N	P	Q	3.33	0.46	3.58	0.33	3.47	0.35	5,062
Specialized Health Sciences	8.2	2.4	8.3	2.3	8.8	2.4	M	O	Q	3.35	0.48	3.61	0.32	3.48	0.36	1,266
<b>Total Applicants</b>	<b>9.0</b>	<b>2.2</b>	<b>9.3</b>	<b>2.3</b>	<b>9.8</b>	<b>2.1</b>	<b>M</b>	<b>P</b>	<b>Q</b>	<b>3.40</b>	<b>0.44</b>	<b>3.63</b>	<b>0.31</b>	<b>3.50</b>	<b>0.35</b>	<b>42,231</b>

Stdev\* = standard deviation

Matriculants, 2008	MCAT VR		MCAT PS		MCAT BS		MCAT WS			GPA science		GPA non-science		GPA total		Total by Major
	Mean	Stdev	Mean	Stdev	Mean	Stdev	25th %ile	Median	75th %ile	Mean	Stdev	Mean	Stdev	Mean	Stdev	
Biological Sciences	9.7	1.8	10.2	2.0	10.8	1.7	N	P	Q	3.61	0.32	3.76	0.23	3.67	0.26	9,269
Humanities	10.5	1.7	10.4	1.8	10.8	1.5	O	Q	R	3.56	0.34	3.73	0.24	3.65	0.25	1,023
Math and Statistics	10.1	1.5	11.0	1.9	10.9	1.7	N	P	Q	3.65	0.28	3.72	0.26	3.67	0.25	175
Other	9.8	1.8	10.1	2.0	10.6	1.7	N	P	R	3.57	0.34	3.73	0.24	3.66	0.26	2,732
Physical Sciences	9.9	1.8	11.2	1.9	10.9	1.7	N	P	Q	3.62	0.31	3.70	0.26	3.65	0.27	2,229
Social Sciences	10.2	1.6	10.2	1.9	10.6	1.6	O	Q	R	3.54	0.35	3.68	0.27	3.61	0.27	2,215
Specialized Health Sciences	9.5	1.8	9.8	2.0	10.3	1.7	M	P	Q	3.59	0.35	3.75	0.22	3.67	0.26	393
<b>Total Matriculants</b>	<b>9.9</b>	<b>1.8</b>	<b>10.3</b>	<b>2.0</b>	<b>10.7</b>	<b>1.7</b>	<b>N</b>	<b>P</b>	<b>Q</b>	<b>3.60</b>	<b>0.33</b>	<b>3.73</b>	<b>0.25</b>	<b>3.66</b>	<b>0.26</b>	<b>18,036</b>

# Selection Criteria

- GPA - overall and science
  - Strength of transcript
  - ALL grades reported
- MCAT scores
- Application essays
- Experience(s)
- Letters
- Interview
- State of residence

# GPA for Applicants & Matriculants, 2008

	<u>Applicants</u> (42,231)		<u>Matriculants</u> (18,036)
GPA Science	3.40	<-- 0.2 -->	3.60
GPA non-science	3.63	<-- 0.1 -->	3.73
GPA Total	3.50		3.66

source: [www.aamc.org/students/mcat](http://www.aamc.org/students/mcat)

# Selection Criteria

- GPA - overall and science
  - Strength of transcript
  - ALL grades reported
    - Repeated courses?
- MCAT scores
- Application essays
  - What do I tell the schools?
  - Are they really important?
- Experience
- Letters

# Statistics, 2008

	<u>Applicants</u>		<u>Matriculants</u>
#	42,231		18,036
VR	9.0		9.9
PHYS	9.3	42%	10.3
BIOL	9.8		10.7
Writing	O		P
<i>Subject Averages</i>	28.1	↔	30.9

Range of MCAT scores  
submitted by matriculants  
“never” falls below an  
8!

Why is the MCAT important to medical schools?

# Selection Criteria

- GPA - overall and science
  - Strength of transcript
  - ALL grades reported
    - Repeated courses?
- MCAT scores
- Application essays
  - What do I tell the schools?
  - Are they really important?
- Experience
- Letters

## Med School Admissions Articles, Advice, & Tips

### [Do's and Don'ts](#)

Twenty succinct Do's and Don'ts for your AMCAS and non-AMCAS personal statements.

### [Secondary Essays](#)

Make sure your secondary essays add value to your application.

### [10 Secrets of Good Writing](#)

Discover the key elements to good writing and improve anything you have to put on paper.

### [Non-Science Background](#)

Your non-science background can be a tremendous advantage. Guarantee that it is by answering the 3 critical questions raised in this article.

### [Research Background](#)

Take advantage of your strong science background and show that you are a well-rounded human being.

### [Older Applicants](#)

Learn how to profit from your maturity while making sure you answer the unasked questions about older applicants.

### [Letters of Rec](#)

Ten tips for writers of letters of recommendation.

### [Residency Essays](#)

Four essential elements of an outstanding residency essay.

<http://www.accepted.com/medical/AmcasEssay.aspx>

# Personal Statements: The Do's:

1. Unite your essay and give it direction with a theme or thesis. The thesis is the main point you want to communicate.
2. Before you begin writing, choose what you want to discuss and the order in which you want to discuss it.
3. Use concrete examples from your life experience to support your thesis and distinguish yourself from other applicants.
4. Write about what interests you, excites you. That's what the admissions staff wants to read.
5. Start your essay with an attention-grabbing lead--an anecdote, quote, question, or engaging description of a scene.

<http://www.accepted.com/medical/dosdents.aspx>

# Personal Statements: The Do's:

6. End your essay with a conclusion that refers back to the lead and restates your thesis.
7. Revise your essay at least three times.
8. In addition to your editing, ask someone else to critique your personal statement.
9. Proofread your personal statement by reading it out loud or reading it into a tape recorder and playing back the tape.
10. Write clearly, succinctly.

<http://www.accepted.com/medical/dosdents.aspx>

# The Don't's

1. Don't include information that doesn't support your thesis.
2. Don't start your essay with "I was born in..." or "My parents came from..."
3. Don't write an autobiography, itinerary, or resume in prose.
4. Don't try to be a clown (but gentle humor is OK).
5. Don't be afraid to start over if the essay just isn't working or doesn't answer the essay question.

<http://www.accepted.com/medical/dosdonts.aspx>

# The Don't's

- 6. Don't try to impress your reader with your vocabulary.
- 7. Don't rely exclusively on your computer to check your spelling.
- 8. Don't provide a collection of generic statements and platitudes.
- 9. Don't give mealy-mouthed, weak excuses for your GPA or test scores.
- 10. Don't make things up.

<http://www.accepted.com/medical/dosdonts.aspx>

# Edit your essay:

- Subject verb agreement
- Active voice verbs
- Definite verbs
- Avoid empty killer phrases
  - It is .....
- Limit your use of “passion”
- Read it aloud!
- Outline it when you are finished

# Selection Criteria

- GPA - overall and science
  - Strength of transcript
  - ALL grades reported
    - Repeated courses?
- MCAT scores
- Application essays
  - What do I tell the schools?
  - Are they really important?
- Experience
- Letters

# A word about recommendation letters.....

Experience and Interests

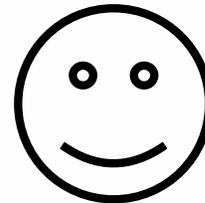
Never underestimate the  
importance of your college pre-  
professional committee letter

# Selection Criteria

- GPA - overall and science
  - Strength of transcript
  - ALL grades reported
- MCAT scores
- Application
- Letters
- Experience
- Essays
- State of residence
- Interview

# Preparing for your interview: Do your homework!

- The suit and shoes
- Know the program!
- Two lists of questions
- Know the Admissions staff members
- Review everything the you submitted
- Be familiar with the problems or issues facing the medical profession
- Personalize your conversation
- Be yourself and SMILE!!!



Is age a factor?

Early Decision?

# Addressing weak sections of your application:

- GPA - overall and science
  - Take REAL, upper division, graded science courses!
- MCAT scores
  - Read, read, read, and read
  - Practice tests (timed!) before study!
- Application essays
  - Get help and prepare 4 - 5 drafts over 2 weeks
  - Read it aloud!
- Submit AMCAS on time!

# Addressing weak sections of your application:

- Experience
  - Patient contact in a clinical setting
  - Research (look at MSAR)
- Letters
  - Rethink your assets
- Interview
  - Practice, public speaking courses/opportunities
  - Read more!
- State of residence and choice of schools

One year post bac programs?

Put June 30th on your calendar!

The role of your research  
experiences in your application?

How many schools?

# The MCAT

What is it?

## Welcome to the Official Medical College Admission Test (MCAT) Web Site

[MCAT Home](#)

[About the MCAT Exam](#)

[Registration](#)

[Examinees with  
Disabilities](#)

[Practice Tests](#)

[MCAT Scores](#)

[Examinee Data](#)

[Research](#)

[Contact MCAT](#)

**Taking the  
MCAT exam?**  
Take charge of  
your prep!

### About the MCAT Exam

Almost all U.S. medical schools require applicants to submit MCAT scores. Medical college admission committees consider MCAT scores as part of their admission decision process. [More >>](#)

### News

[Registration](#) is open for the January through May 2009 administrations of the MCAT exam.

### Prepare to Register

[2009 MCAT Essentials](#) (PDF, 24 pages)

**Required reading for all MCAT exam registrants:** Includes information about the MCAT refund policy, registration opening dates, and much more.

[Schedule of 2009 MCAT Exam Test Dates and Times](#)

[2009 Registration Deadlines & Score Release Schedule](#)

[2009 MCAT Testing Center Locations](#)

[International Testing 2009](#)

### Prepare to Take the MCAT Exam

[2009 MCAT Essentials](#)  
(PDF, 24 pages)

**Required reading** for all MCAT exam registrants. Provides information about registration, preparation, and administration.

[Preparing for the MCAT Exam](#)

[MCAT Practice Tests](#)

### Related Resources

[AMCAS](#)

[AspiringDocs.org](#)

[Fee Assistance Program](#)

[Medical Minority Applicant Registry](#)

[National Applicant Data](#)

[Students and Residents Publications](#)

# Your MCAT Day

TEST SECTIONS	TIME
Non-Disclosure Agreement	10 minutes
Tutorial <i>(Optional)</i>	
<b>Physical Sciences</b>	<b>70 minutes</b>
<b>52 Questions</b>	
Break <i>(Optional)</i>	10 minutes
<b>Verbal Reasoning</b>	<b>60 minutes</b>
<b>40 Questions</b>	
Break <i>(Optional)</i>	10 minutes
<b>Writing Sample</b>	<b>60 minutes</b>
<b>2 Essays</b>	
Break <i>(Optional)</i>	10 minutes
<b>Biological Sciences</b>	<b>70 minutes</b>
<b>52 Questions</b>	
Survey <i>(Optional)</i>	10 minutes
<b>Total Content Time</b>	<b>4 hours, 20 minutes</b>
<b>Total "Seat" Time*</b>	<b>5 hours, 10 minutes</b>

# The MCAT

When?

## 2009 Medical College Admission Test (MCAT) Schedule

Single Administration  
8 a.m.

Single Administration  
Noon

Double Administration  
8 a.m. and 2 p.m.

January						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

March						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

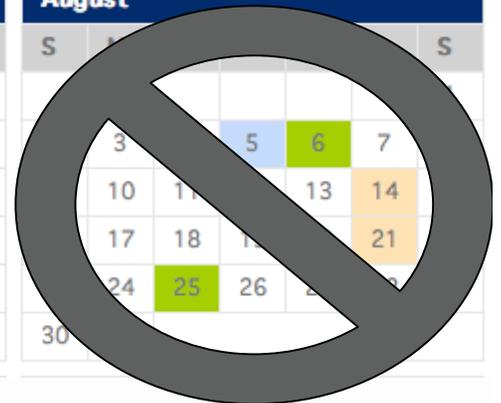
April						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

June						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

July						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August						
S	M	T	W	T	F	S
3	4	5	6	7		
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						



Schools accepting September  
MCATs ?

# The MCAT

How well must I do?

How to do well?

# The MCAT

- Biological Sciences (1 - 15)
- Physical Sciences (1 - 15)
- Verbal Reasoning (1 - 15)
- Writing Sample (J - T)

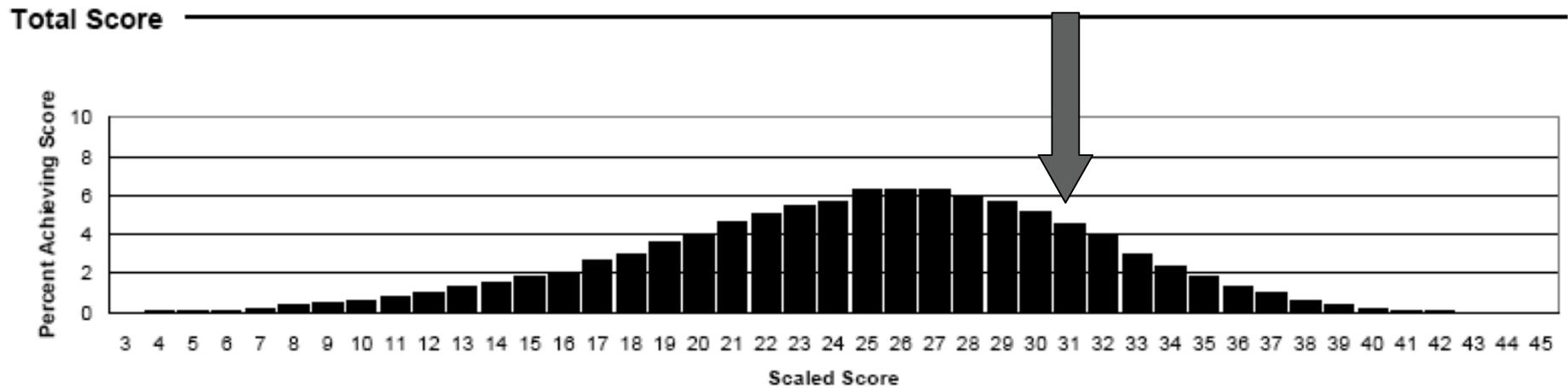
*Note: these scores are scaled, not absolute.*

# MCAT Data: 2008 Combined



**Table 1**

Percentages of MCAT Examinees Achieving Scaled Score Levels and Associated Percentile Rank Ranges by Area of Assessment  
 Combined 2008 Administrations N = 75,809



source: [www.aamc.org/students/mcat](http://www.aamc.org/students/mcat)

Scaled Score	Percent Achieving Score	Percentile Rank Range
45	0.0	99.9–99.9
44	0.0	99.9–99.9
43	0.0	99.9–99.9
42	0.1	99.9–99.9
41	0.1	99.7–99.8
40	0.2	99.5–99.6
39	0.4	99.2–99.4
38	0.7	98.5–99.1
37	1.0	97.6–98.4
36	1.3	96.2–97.5
35	1.9	94.4–96.1
34	2.4	92.0–94.3
33	2.9	89.0–91.9
32	3.9	85.1–88.9
31	4.6	80.5–85.0
30	5.2	75.3–80.4
29	5.7	69.6–75.2
28	5.9	63.7–69.5
27	6.3	57.3–63.6
26	6.3	51.0–57.2

**Scaled Score**  
 Mean = 24.9  
 Std Deviation = 6.4



source: [www.aamc.org/students/mcat](http://www.aamc.org/students/mcat)

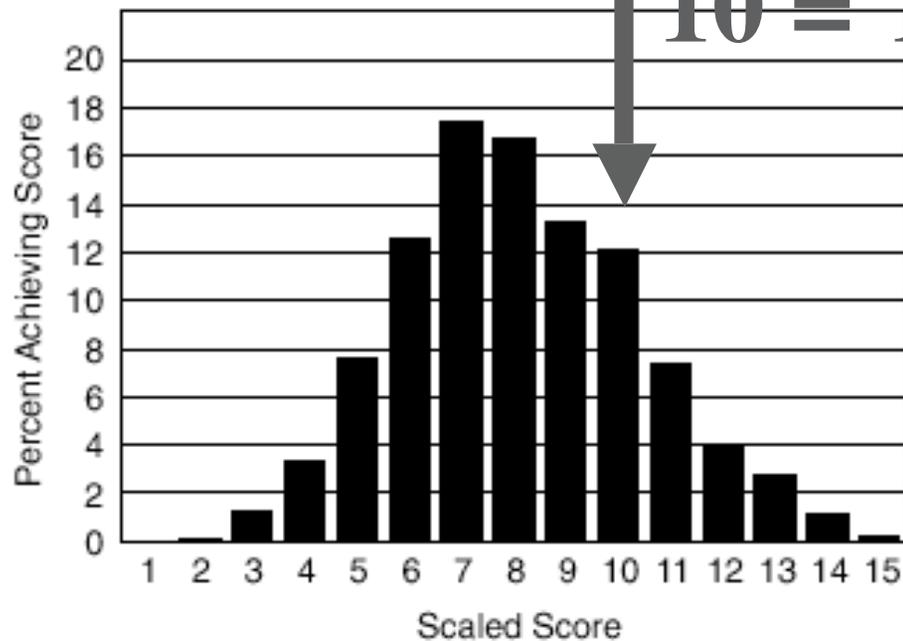
# Example: Physical Sciences

- 52 Total Questions in 70 minutes
- 42 related to passages
  - ~250 words in each of 7 - 9 passages
- 10 questions unrelated to each other or to the passages
- ~42,000 test takers earning scores of 1 - 15

# Scaled Scores

Combined April/August 2000 Administration

## Physical Sciences



Scaled Score	Percent Achieving Score	Percentile Rank Range
15	0.2	99.6–99.9
14	1.1	98.8–99.5
13	2.8	96.0–98.7
12	4.0	92.0–95.9
11	7.4	84.6–91.9
10	12.1	72.5–84.5
9	13.3	59.2–72.4
8	16.7	42.5–59.1
7	17.4	25.1–42.4
6	12.6	12.4–25.0
5	7.6	04.8–12.3
4	3.3	01.5–04.7
3	1.3	00.2–01.4
2	0.1	00.1–00.1
1	0.0	00.0–00.0

source: [www.aamc.org/students/mcat](http://www.aamc.org/students/mcat)

*Question:*

How many questions  
(out of 52 total) separate  
a score of 10 from a 9 or  
an 11 ?

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## Preparing for the MCAT Exam

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### Test Sections

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[Topics for Biological Sciences Sections of the MCAT Exam \(PDF, 25 pages\)](#)

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[How do I get ready for the Verbal Reasoning Skills section?](#)

[Verbal Reasoning Skills Topics \(PDF, 1 page\)](#)



# Topics for Biological Sciences Section of the MCAT

## Biology

### Molecular Biology: Enzymes and Metabolism

#### A. ENZYME STRUCTURE AND FUNCTION

1. Function of enzymes in catalyzing biological reactions
2. Reduction of activation energy
3. Substrates and enzyme specificity

#### B. CONTROL OF ENZYME ACTIVITY

1. Feedback inhibition
2. Competitive inhibition
3. Non-competitive inhibition

#### C. BASIC METABOLISM

1. Glycolysis, anaerobic and aerobic, substrates and products
2. Krebs cycle, substrates and products, general features of the pathway
3. Electron transport chain and oxidative phosphorylation, substrates and products, general features of the pathway
4. Metabolism of fats and proteins

## Oxygen Containing Compounds

### A. ALCOHOLS

1. Description
  - a. nomenclature
  - b. physical properties
  - c. infrared absorption of OH group
2. Important reactions
  - a. substitution reactions:  $S_N1$  or  $S_N2$ , depending on alcohol and derived alkyl halide
  - b. oxidation
  - c. pinacol rearrangement in polyhydroxyalcohols; synthetic uses
  - d. protection of alcohols
  - e. reactions with  $SOCl_2$  and  $PBr_3$
  - f. preparation of mesylates and tosylates
  - g. esterification
  - h. inorganic esters
3. General principles
  - a. hydrogen bonding
  - b. acidity of alcohols compared to other classes of oxygen-containing compounds
  - c. effect of chain branching on physical properties

## **Physics**

### **Translational Motion**

1. Units and dimensions
2. Vectors, components
3. Vector addition
4. Speed, velocity (average and instantaneous)
5. Acceleration
6. Freely falling bodies

### **Force and Motion, Gravitation**

1. Center of mass
2. Newton's first law, inertia
3. Newton's second law ( $F = ma$ )
4. Newton's third law, forces equal and opposite
5. Concept of a field
6. Law of gravitation ( $F = K_G m_1 m_2 / r^2$ )
7. Uniform circular motion
8. Centripetal acceleration ( $F = mv^2/r$ )
9. Weight
10. Friction, static and kinetic
11. Motion on an inclined plane
12. Analysis of pulley systems
13. Force

# Things to remember about MCAT Preparation

1. You are studying to get a score, not learn tons of material.
2. You do not need to know the enzymes of the Krebs Cycle.
3. You only need to know a relatively small number of facts.
4. Practice pays larger dividends. Content study yields diminishing returns.

# Writing sample

1. Developing a central idea
2. Synthesizing concepts and ideas
3. Presenting ideas cohesively and logically
4. Writing clearly using good grammar, syntax and punctuation consistent with a timed, first draft

# Writing sample

You are given a statement expressing an opinion.

First, explain what you think this means.

Second, explore the meaning by considering a circumstance in which the statement might not apply or be true.

Third, discuss ways in which the conflict might be resolved.

# Writing Sample

- Two scores for each of two sections
  - Each evaluator awards a score of 1 to 6
- Sum of scores on two questions is converted to J to T scale (11 units on scores from 4 - 24)
- For example:
  - 3 & 3 on Part 1 and 5 & 6 on Part 2
  - Raw score of 17 converted to alphabetic to give distribution

So how do I begin to study?

1. Download Content!
2. Set up study schedule
3. Analyze Practice Tests
4. Textbooks !!!
5. Sample problems !!!

The most beneficial, helpful, and  
useful thing you can do to  
prepare.....

Take practice tests under game conditions!

# Practice MCATs at

- [www.e-mcat.com](http://www.e-mcat.com)
  - Online
- [www.aamc.org](http://www.aamc.org)
  - Online and paper for sale
- Sample questions in PDF manual
- Helpful site:  
*<http://silenttimer.com/handbook/standardizedtest/mcat/index.php>*

Next session:  
Higgins's Recipe for  
MCAT Study

Do I need a review course ?

What is the value of review  
course material?

Study groups or solo?

When do you finally learn and  
understand something ?

When are you sure ?

# Homework for next session.....

- Download & read MCAT info from Web
  - at least *MCAT Essentials* !
- Examine data & determine desired state of residence
- Identify potential letter writers
- Begin to identify times and places in your schedule
- What do you need to study?

Homework for next week.....

Email your questions to me at:

*[higginsw@mail.nih.gov](mailto:higginsw@mail.nih.gov)*

# At our next session,

- Answer questions about process & the MCAT
- How to prepare!
- Review of specific types of questions
- Strategies for attacking different types of questions
- Using those practice tests
- Leave time for individual consultation

To schedule an appointment:

Email or call:

Ms. Katherine Foisie in OITE

[foisiek@mail.nih.gov](mailto:foisiek@mail.nih.gov)

# April & May Workshops

Writing your personal statement

Filling out the AMCAS forms