Wake Forest Biomedical Graduate Programs Annual Report Tables and Charts
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Academic Year 21-22



Table 1. Application Summary
Academic Year 21-22

Table 1 shows all admission data for the academic year for all biomedical graduate programs at Wake Forest. For those programs that received applications for the academic year, the total count is found under Applications Received. The next two columns show the count, and the percentage, vs. total applications received, for those that were Accepted into the program. After that, the next two columns show the count, and the percentage, vs. total Accepted, for those that were Enrolled into the program. The competitive index for each program, found in the final column, is a measure of the competitiveness of entry into each program in comparison to other Wake Forest biomedical graduate programs. The index is calculated by taking the overall admission rate for all Wake Forest biomedical programs (new accepted/all applicants) and dividing by the admission rate for that program (new accepted/all applicant). Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		New Accepted		Newly Enrolled		
Biomedical Degree Program	***Applications Received***	***Count***	***Percent of Received***	***Count***	***Percent of Accepted***	***Competitive Index***
Addiction Research and Clinical Health (MS)	9	7	78%	5	71%	0.52
Biomedical Engineering (MS)[1]	36	19	53%	4	21%	0.76
Biomedical Sciences (MS - Pre-health Pathway)	79	43	54%	30	70%	0.74
Biomedical Sciences (MS - Research Pathway)	56	42	75%	28	67%	0.54
Clinical and Population Translational Science (MS)[2]						
Clinical Research Management (MS)	35	31	89%	23	74%	0.45
Comparative Medicine (MS)						
Genetic Counseling (MS)	78	8	10%	8	100%	3.92
Health Disparities in Neuroscience-related Disorders (MS)	4	3	75%	1	33%	0.54
Healthcare Leadership (MHL)	44	31	70%	22	71%	0.57
Molecular Medicine and Translational Science (MS)	1	0	0%			
Neuroscience (MS)	26	13	50%	8	62%	0.80
Translational and Health System Science (MS)[2]	6	6	100%	6	100%	0.40
Master Degree Totals/Percentages	374	203	54%	135	67%	0.74
Biochemistry and Molecular Biology (PhD)[3]						
Biomedical Engineering (PhD)[1]	119	24	20%	18	75%	1.99
Cancer Biology (PhD)[3]	1	1	100%	1	100%	0.40
Integrative Physiology and Pharmacology (PhD)	34	14	41%	4	29%	0.98
Microbiology and Immunology (PhD)[3]						
Molecular and Cellular Biosciences (Admission Track)[3]	138	34	25%	11	32%	1.63
Molecular Genetics and Genomics (PhD)[3]						
Molecular Medicine and Translational Science (PhD)[3]	7	5	71%	5	100%	0.56
Neuroscience (PhD)	83	23	28%	9	39%	1.45
Doctoral Degree Totals/Percentages	382	101	26%	48	48%	1.52
All Degree Totals/Percentages	**756**	**304**	**40%**	**183**	**60%**	1.00
Joint Degree Program[4]						
PhD/MD (All PhD Degrees)	3	3	100%	3	100%	
PhD/MBA (All PhD Degrees)						
MS/MD (Translational and Health System Science)	1	1	100%	1	100%	
MS/BA-BS (Neuroscience)	4	4	100%	3	75%	
Joint Degree Totals/Percentages	8	8	100%	7	88%	
Graduate Certificate[4]						
Clinical and Translational Investigation						
Learning Health System Science						
Graduate Certificate Totals/Percentages						

Footnotes:

1. Biomedical Engineering (MS) and Biomedical Engineering (PhD) are joint degree programs with Virginia Tech. Applications to both degree programs are received through the Virginia Tech application system and data is shared with Wake Forest.
2. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
3. Biochemistry and Molecular Biology (PhD), Cancer Biology (PhD), Microbiology and Immunology (PhD), Molecular Genetics and Genomics (PhD), and Molecular Medicine and Translational Science (PhD) are all members of the Molecular and Cellular Biosciences Track. Admission to the first four programs is only through the Track, unless the student completes a biomedical MS program at Wake Forest first. Molecular Medicine and Translational Science (PhD) maintains a direct admission pathway for those with previous terminal clinical degrees that are entering clinical fellowship programs. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
4. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Chart 1A. Admission Decision Breakdowns for Wake Forest Biomedical Graduate Programs
Academic Year 21-22

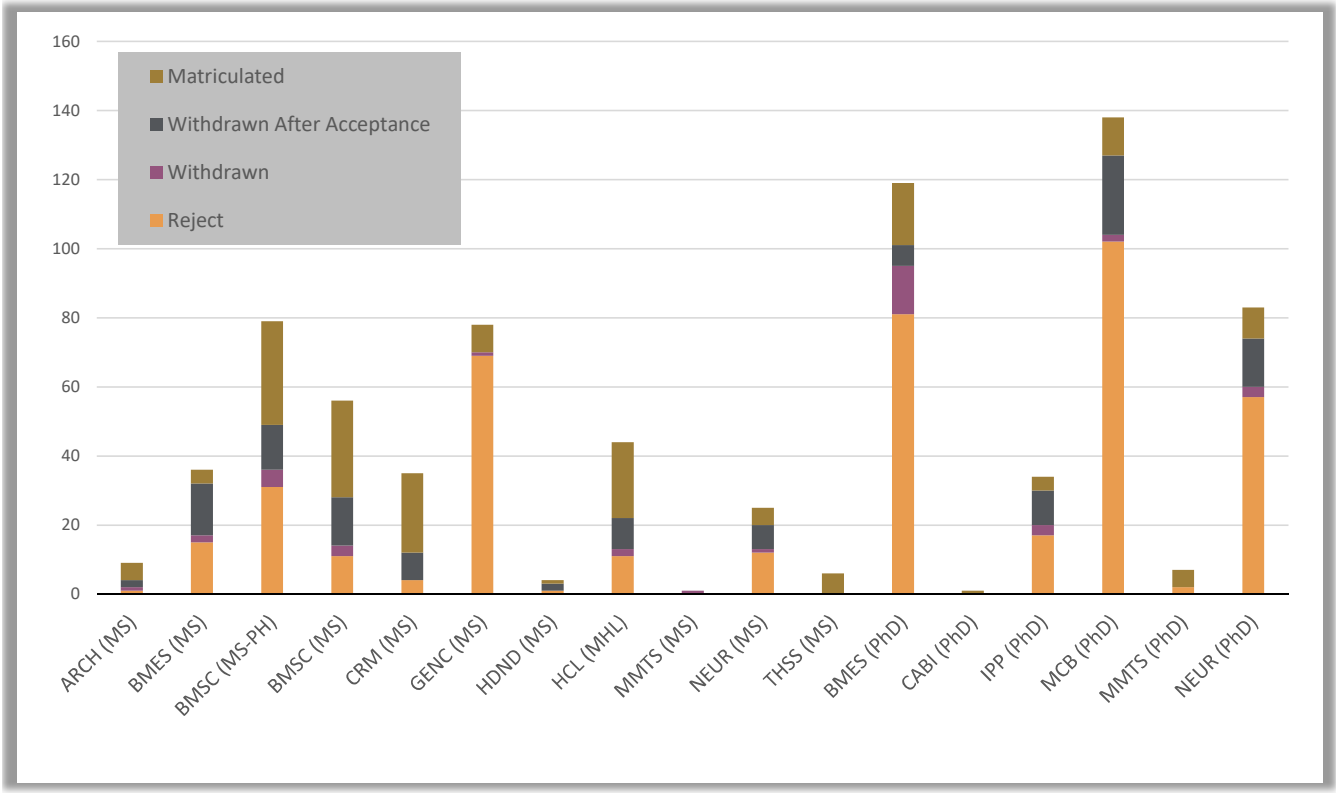

Chart 1A shows the admission decision breakdown for all Wake Forest biomedical graduate programs that received applications. A larger applicant pool, particularly one with a large percentage of rejected applicants, tends to reveal Wake Forest's more competitive biomedical programs. These programs typically require interviews and hold admission decisions until after the application deadline. In general, less competitive programs often offer rolling admission decisions.

Chart 1B. Comparison of URM Status v. Admission Decisions for All Wake Forest Biomedical Graduate Programs
Academic Year 21-22

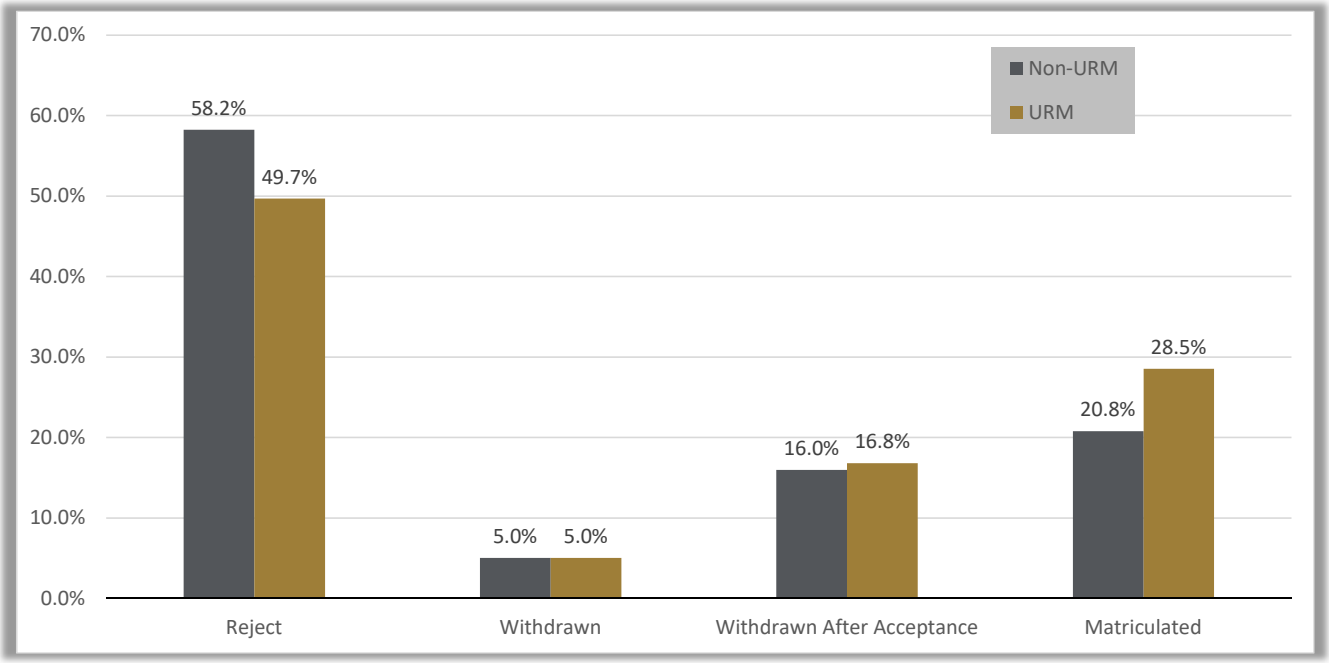

Chart 1B seeks to compare admission decisions for all biomedical, inclusive of doctoral and master, programs based on the applicant's URM status. For the current academic year, we find that URM status holds steady at each step of the admission's process, with a small variance after an offer letter is extended.

Chart 1C. Comparison of URM Status v. Admission Decisions for Master-level Wake Forest Biomedical Graduate Programs
Academic Year 21-22

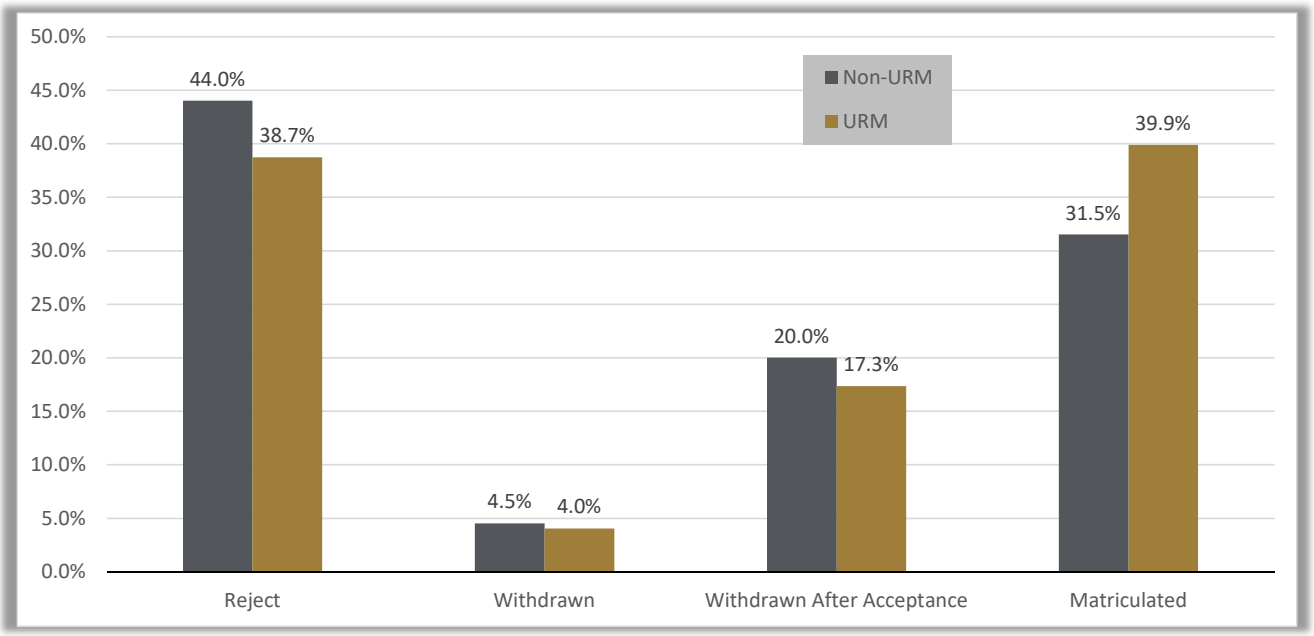

Chart 1C seeks to compare admission decisions for all Master-level biomedical programs based on the applicant's URM status. For the current academic year, we find applicants who are URMs are rejected at a higher rate than applicants who do not report any demographic that maps to our URM definitions.

Chart 1D. Comparison of URM Status v. Admission Decisions for Doctoral-level Wake Forest Biomedical Graduate Programs
Academic Year 21-22

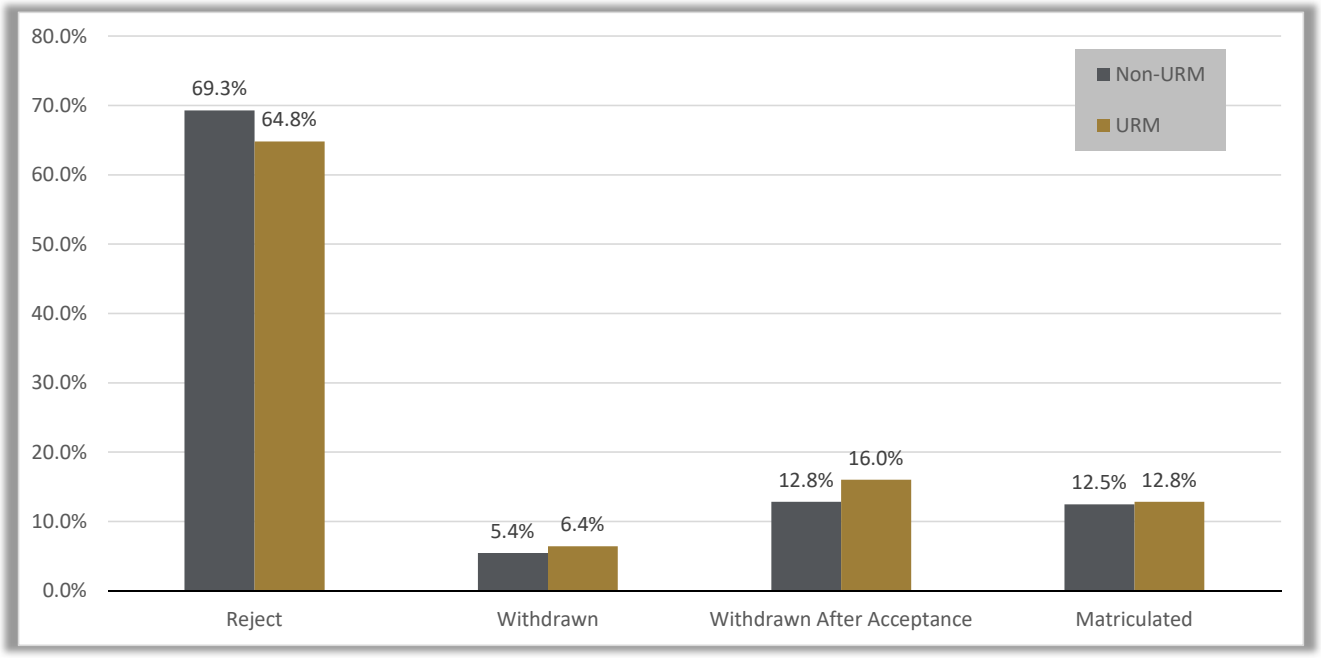

Chart 1D seeks to compare admission decisions for all Doctoral-level biomedical programs based on the applicant's URM status. For the current academic year, we find that URM status holds steady at each step of the admission's process.

Chart 1E. Admissions Competitive Index by Wake Forest Biomedical Graduate Program
Academic Year 21-22

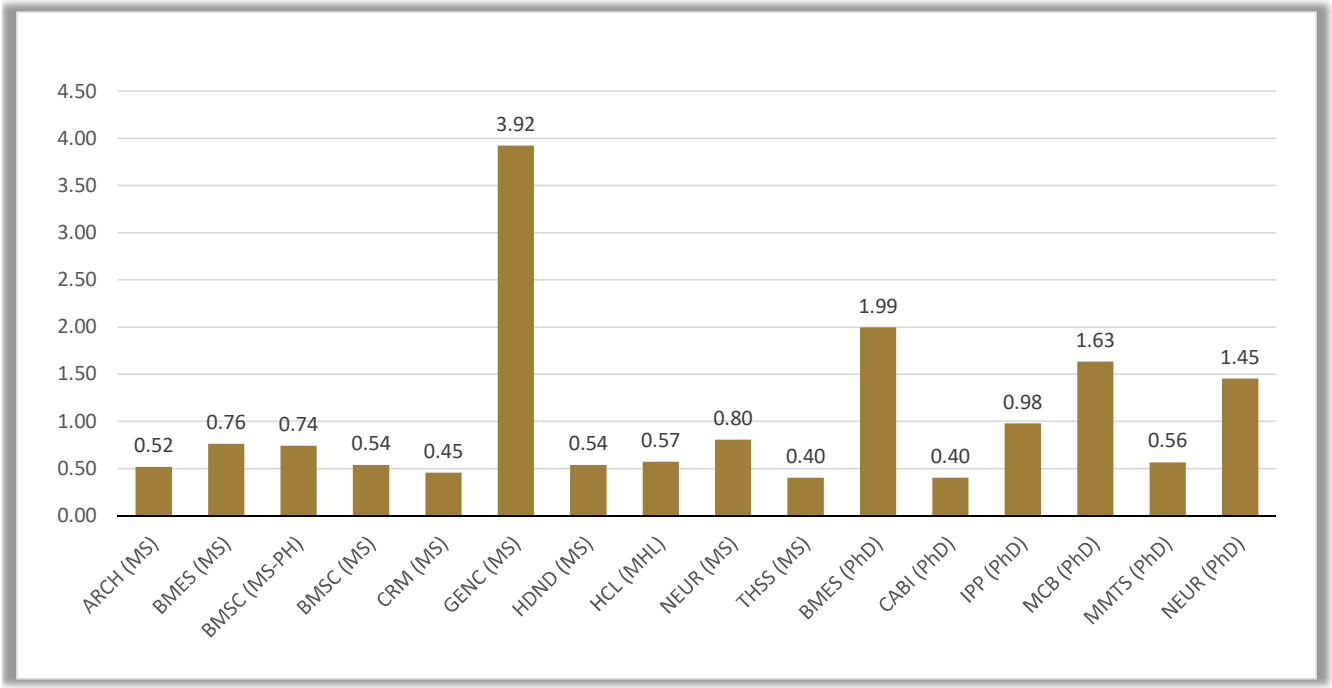

Chart 1E seeks to track the competitiveness of the admission process for each Wake Forest biomedical degree program by comparing it with all other programs. The competitive index for each program is calculated by taking the overall admission rate for all Wake Forest biomedical programs (accepted/all applicants) and dividing by the admission rate for that program (accepted/all applicants).

Table 2. New Applicant Demographics
Academic Year 21-22

Table 2 shows the demographic data for New Applicants, i.e., those that applied to join a Wake Forest biomedical graduate program, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

The table also provides an accounting of applications received from international students. This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that received applications for the academic year, the total count of applications is found under the column labeled Total Population. The remainder of the columns show the counts for the listed category. Under URM in STEM Careers, in the case that an applicant reported multiple URM categories, the applicant is only counted once in the "All Types" column. Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Gender		URM in STEM Careers				
Biomedical Degree Program	***Total Population***	***Male***	***Female***	***All Types***	***Ethnicity***	***Socioenomic***	***1st Generation***	***International Students***
Addiction Research and Clinical Health (MS)	9	1	8	4	3	1	4	1
Biomedical Engineering (MS)[1]	36	18	18	4	3		1	14
Biomedical Sciences (MS - Pre-health Pathway)	79	19	37	25	16	14	12	15
Biomedical Sciences (MS - Research Pathway)	56	25	54	51	41	28	26	3
Clinical and Population Translational Science (MS)[2]								
Clinical Research Management (MS)	35	5	30	19	9	6	16	
Comparative Medicine (MS)								
Genetic Counseling (MS)	78	8	70	23	11	3	14	1
Health Disparities in Neuroscience-related Disorders (MS)	4	1	3	1	1		1	1
Healthcare Leadership (MHL)	44	13	31	28	17	6	16	
Molecular Medicine and Translational Science (MS)	1		1	1		1		1
Neuroscience (MS)	26	12	14	12	8	2	7	4
Translational and Health System Science (MS)[2]	6	5	1	4	3	2	3	
Master Degree Totals	374	107	267	172	112	63	100	40
Biochemistry and Molecular Biology (PhD)[3]								
Biomedical Engineering (PhD)[1]	119	63	56	17	13	3	5	46
Cancer Biology (PhD)[3]	1	1		1			1	1
Integrative Physiology and Pharmacology (PhD)	34	17	17	13	7	6	7	12
Microbiology and Immunology (PhD)[3]								
Molecular and Cellular Biosciences (Admission Track)[3]	138	56	82	61	28	27	38	43
Molecular Genetics and Genomics (PhD)[3]								
Molecular Medicine and Translational Science (PhD)[3]	7	4	3	4	2	3	2	3
Neuroscience (PhD)	83	25	58	29	16	11	20	11
Doctoral Degree Totals	382	166	216	125	66	50	73	116
All Degree Totals	**756**	**273**	**483**	**297**	**178**	**113**	**173**	**156**
Joint Degree Program[4]								
PhD/MD (All PhD Degrees)	3	3						
PhD/MBA (All PhD Degrees)								
MS/MD (Translational and Health System Science)	1	1		1	1	1	1	
MS/BA-BS (Neuroscience)	4	1	3	1	1			1
Joint Degree Totals	8	5	3	2	2	1	1	1
Graduate Certificate[4]								
Clinical and Translational Investigation								
Learning Health System Science								
Graduate Certificate Totals								

Footnotes:

1. Biomedical Engineering (MS) and Biomedical Engineering (PhD) are joint degree programs with Virginia Tech. Applications to both degree programs are received through the Virginia Tech application system and data is shared with Wake Forest.
2. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
3. Biochemistry and Molecular Biology (PhD), Cancer Biology (PhD), Microbiology and Immunology (PhD), Molecular Genetics and Genomics (PhD), and Molecular Medicine and Translational Science (PhD) are all members of the Molecular and Cellular Biosciences Track. Admission to the first four programs is only through the Track, unless the student completes a biomedical MS program at Wake Forest first. Molecular Medicine and Translational Science (PhD) maintains a direct admission pathway for those with previous terminal clinical degrees that are entering clinical fellowship programs. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
4. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Table 3. New Accepted Student Demographics
Academic Year 21-22

Table 3 shows the demographic data for New Accepted Students, i.e., those to whom an offer letter to join a Wake Forest biomedical graduate program was extended, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

The table also provides an accounting of applications received from international students. This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that accepted students for the academic year, the total count is found under the column labeled Total Population. The remainder of the columns show the counts for the listed category. Under URM in STEM Careers, in the case that a new accepted student reported multiple URM categories, the applicant is only counted once in the "All Types" column. Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Gender		URM in STEM Careers				
Biomedical Degree Program	***Total Population***	***Male***	***Female***	***All Types***	***Ethnicity***	***Socioenomic***	***1st Generation***	***International Students***
Addiction Research and Clinical Health (MS)	7	1	6	4	3	1	4	
Biomedical Engineering (MS)[1]	19	8	11	2	1		1	6
Biomedical Sciences (MS - Pre-health Pathway)	43	9	34	33	29	18	17	
Biomedical Sciences (MS - Research Pathway)	42	13	29	16	11	9	6	10
Clinical and Population Translational Science (MS)[2]								
Clinical Research Management (MS)	31	5	26	16	9	4	13	
Comparative Medicine (MS)								
Genetic Counseling (MS)	8	1	7	2	1	1	1	
Health Disparities in Neuroscience-related Disorders (MS)	3	1	2					
Healthcare Leadership (MHL)	31	11	20	18	10	6	10	
Molecular Medicine and Translational Science (MS)								
Neuroscience (MS)	13	6	7	3	3	1	1	1
Translational and Health System Science (MS)[2]	6	5	1	4	3	2	3	
Master Degree Totals	203	60	143	98	70	42	56	17
Biochemistry and Molecular Biology (PhD)[3]								
Biomedical Engineering (PhD)[1]	24	15	9	8	4	3	5	7
Cancer Biology (PhD)[3]	1	1		1			1	1
Integrative Physiology and Pharmacology (PhD)	14	6	8	4	1	2	3	4
Microbiology and Immunology (PhD)[3]								
Molecular and Cellular Biosciences (Admission Track)[3]	34	12	22	13	5	8	9	7
Molecular Genetics and Genomics (PhD)[3]								
Molecular Medicine and Translational Science (PhD)[3]	5	3	2	2	1	1	2	1
Neuroscience (PhD)	23	5	18	8	4	3	7	
Doctoral Degree Totals	101	42	59	36	15	17	27	20
All Degree Totals	**304**	**102**	**202**	**134**	**85**	**59**	**83**	**37**
Joint Degree Program[4]								
PhD/MD (All PhD Degrees)	3	3						
PhD/MBA (All PhD Degrees)								
MS/MD (Translational and Health System Science)	1	1		1	1	1	1	
MS/BA-BS (Neuroscience)	4	1	3	1	1			1
Joint Degree Totals	8	5	3	2	2	1	1	1
Graduate Certificate[4]								
Clinical and Translational Investigation								
Learning Health System Science								
Graduate Certificate Totals								

Footnotes:

1. Biomedical Engineering (MS) and Biomedical Engineering (PhD) are joint degree programs with Virginia Tech. Applications to both degree programs are received through the Virginia Tech application system and data is shared with Wake Forest.
2. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
3. Biochemistry and Molecular Biology (PhD), Cancer Biology (PhD), Microbiology and Immunology (PhD), Molecular Genetics and Genomics (PhD), and Molecular Medicine and Translational Science (PhD) are all members of the Molecular and Cellular Biosciences Track. Admission to the first four programs is only through the Track, unless the student completes a biomedical MS program at Wake Forest first. Molecular Medicine and Translational Science (PhD) maintains a direct admission pathway for those with previous terminal clinical degrees that are entering clinical fellowship programs. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
4. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Table 4. Newly Enrolled Student Demographics
Academic Year 21-22

Table 4 shows the demographic data for Newly Enrolled Students, i.e., those that joined a Wake Forest biomedical graduate program after receiving an offer letter, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

The table also provides an accounting of applications received from international students. This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that enrolled new students for the academic year, the total count is found under the column labeled Total Population. The remainder of the columns show the counts for the listed category. Under URM in STEM Careers, in the case that a newly enrolled student reported multiple URM categories, the applicant is only counted once in the "All Types" column. Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Gender		URM in STEM Careers				
Biomedical Degree Program	***Total Population***	***Male***	***Female***	***All Types***	***Ethnicity***	***Socioenomic***	***1st Generation***	***International Students***
Addiction Research and Clinical Health (MS)	5		5	3	2	1	3	
Biomedical Engineering (MS)[1]	4	3	1	2	1		1	1
Biomedical Sciences (MS - Pre-health Pathway)	30	6	24	24	21	12	12	
Biomedical Sciences (MS - Research Pathway)	28	10	18	8	5	5	3	1
Clinical and Population Translational Science (MS)[2]								
Clinical Research Management (MS)	23	4	19	14	8	4	11	
Comparative Medicine (MS)								
Genetic Counseling (MS)	8	1	7	2	1	1	1	
Health Disparities in Neuroscience-related Disorders (MS)	1		1					
Healthcare Leadership (MHL)	22	8	14	12	7	4	7	
Molecular Medicine and Translational Science (MS)								
Neuroscience (MS)	8	4	4					
Translational and Health System Science (MS)[2]	6	5	1	4	3	2	3	
Master Degree Totals	135	41	94	69	48	29	41	2
Biochemistry and Molecular Biology (PhD)[3]								
Biomedical Engineering (PhD)[1]	18	12	6	6	3	3	4	3
Cancer Biology (PhD)[3]	1	1		1			1	1
Integrative Physiology and Pharmacology (PhD)	4	2	2	2		2	2	1
Microbiology and Immunology (PhD)[3]								
Molecular and Cellular Biosciences (Admission Track)[3]	11	4	7	5	2	4	3	2
Molecular Genetics and Genomics (PhD)[3]								
Molecular Medicine and Translational Science (PhD)[3]	5	3	2	2	1	1	2	
Neuroscience (PhD)	9	1	8					
Doctoral Degree Totals	48	23	25	16	6	10	12	7
All Degree Totals	**183**	**64**	**119**	**85**	**54**	**39**	**53**	**9**
Joint Degree Program[4]								
PhD/MD (All PhD Degrees)	3	3						
PhD/MBA (All PhD Degrees)								
MS/MD (Translational and Health System Science)	1	1		1	1	1	1	
MS/BA-BS (Neuroscience)	3	1	2					
Joint Degree Totals	7	5	2	1	1	1	1	0
Graduate Certificate[4]								
Clinical and Translational Investigation								
Learning Health System Science								
Graduate Certificate Totals								

Footnotes:

1. Biomedical Engineering (MS) and Biomedical Engineering (PhD) are joint degree programs with Virginia Tech. Applications to both degree programs are received through the Virginia Tech application system and data is shared with Wake Forest.
2. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
3. Biochemistry and Molecular Biology (PhD), Cancer Biology (PhD), Microbiology and Immunology (PhD), Molecular Genetics and Genomics (PhD), and Molecular Medicine and Translational Science (PhD) are all members of the Molecular and Cellular Biosciences Track. Admission to the first four programs is only through the Track, unless the student completes a biomedical MS program at Wake Forest first. Molecular Medicine and Translational Science (PhD) maintains a direct admission pathway for those with previous terminal clinical degrees that are entering clinical fellowship programs. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
4. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Table 5. All Enrolled Student Demographics
Academic Year 21-22

Table 5 shows the demographic data for All Enrolled Students, i.e., those that were enrolled in a Wake Forest biomedical graduate program as a degree seeking student in at least 1 term, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

The table also provides an accounting of applications received from international students. This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that had enrolled students for the academic year, the total count is found under the column labeled Total Population. The remainder of the columns show the counts for the listed category. Under URM in STEM Careers, in the case that an enrolled student reported multiple URM categories, the student is only counted once in the "All Types" column. Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Gender		URM in STEM Careers				
Biomedical Degree Program	***Total Population***	***Male***	***Female***	***All Types***	***Ethnicity***	***Socioenomic***	***1st Generation***	***International Students***
Addiction Research and Clinical Health (MS)	13	2	11	8	7	4	6	
Biomedical Engineering (MS)	25	14	11	5	2		3	3
Biomedical Sciences (MS - Pre-health Pathway)	51	7	44	38	33	17	19	
Biomedical Sciences (MS - Research Pathway)	52	18	34	16	11	10	9	2
Clinical and Population Translational Science (MS)[1]	5	1	4	2	2	1	1	
Clinical Research Management (MS)	48	14	34	23	12	7	18	
Comparative Medicine (MS)								
Genetic Counseling (MS)	8	1	7	2	1	1	1	
Health Disparities in Neuroscience-related Disorders (MS)	1		1					
Healthcare Leadership (MHL)	40	14	26	18	9	7	11	
Molecular Medicine and Translational Science (MS)								
Neuroscience (MS)	25	12	13	2	2			
Translational and Health System Science (MS)[1]	16	11	5	6	4	3	4	1
Master Degree Totals	284	94	190	120	83	50	72	6
Biochemistry and Molecular Biology (PhD)[2]	6	1	5	1	1			
Biomedical Engineering (PhD)	61	38	23	11	5	4	6	10
Cancer Biology (PhD)[2]	18	11	7	4	2	1	2	5
Integrative Physiology and Pharmacology (PhD)	27	11	16	9	5	4	6	3
Microbiology and Immunology (PhD)[2]	8	2	6	3	1	1	3	1
Molecular and Cellular Biosciences (Admission Track)[2]	11	4	7	5	2	4	3	
Molecular Genetics and Genomics (PhD)[2]	4	2	2	4	2		3	1
Molecular Medicine and Translational Science (PhD)[2]	31	13	18	13	9	1	6	3
Neuroscience (PhD)	52	17	35	9	6	2	4	6
Doctoral Degree Totals	218	99	119	59	33	17	33	29
All Degree Totals	**502**	**193**	**309**	**179**	**116**	**67**	**105**	**35**
Joint Degree Program[3]								
PhD/MD (All PhD Degrees)	8	6	2					
PhD/MBA (All PhD Degrees)	1	1		1	1			
MS/MD (Translational and Health System Science)	1	1		1	1	1	1	
MS/BA-BS (Neuroscience)	8	2	6	1	1			
Joint Degree Totals	18	10	8	3	3	1	1	0
Graduate Certificate[3]								
Clinical and Translational Investigation	1		1					
Learning Health System Science	1		1	1	1	1	1	
Graduate Certificate Totals	2	0	2	1	1	1	1	0

Footnotes:

1. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
2. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
3. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Table 6. All Graduated Student Demographics
Academic Year 21-22

Table 6 shows the demographic data for All Graduated Students, i.e., those that successfully completed their degree pursuit, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

The table also provides an accounting of applications received from international students. This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that had students who successfully completed their degree pursuit for the academic year, the count of graduated students is found under the column labeled Population. The remainder of the columns show the counts for the listed category. Under URM in STEM Careers, in the case that a graduated student reported multiple URM categories, the graduated student is only counted once in the "All Types" column. Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Gender		URM in STEM Careers				
Biomedical Degree Program	***Population***	***Male***	***Female***	***All Types***	***Ethnicity***	***Socioenomic***	***1st Generation***	***International Students***
Addiction Research and Clinical Health (MS)	9	2	7	6	5	4	4	
Biomedical Engineering (MS)	17	6	11	2	1		1	3
Biomedical Sciences (MS - Pre-health Pathway)	35	3	32	24	20	11	10	
Biomedical Sciences (MS - Research Pathway)	20	6	14	7	6	4	4	1
Clinical and Population Translational Science (MS)[1]	2		2	2	2	1	1	
Clinical Research Management (MS)	10	4	6	2	1		1	
Comparative Medicine (MS)								
Genetic Counseling (MS)								
Health Disparities in Neuroscience-related Disorders (MS)								
Healthcare Leadership (MHL)								
Molecular Medicine and Translational Science (MS)								
Neuroscience (MS)	11	6	5					
Translational and Health System Science (MS)[1]	5	4	1	2	1		1	
Master Degree Totals	109	31	78	45	36	20	22	4
Biochemistry and Molecular Biology (PhD)[2]	2		2					
Biomedical Engineering (PhD)	3	3						1
Cancer Biology (PhD)[2]	5	2	3	1	1			
Integrative Physiology and Pharmacology (PhD)	3	2	1					
Microbiology and Immunology (PhD)[2]	2		2					
Molecular and Cellular Biosciences (Admission Track)[2]								
Molecular Genetics and Genomics (PhD)[2]								
Molecular Medicine and Translational Science (PhD)[2]	5	1	4	2	2			1
Neuroscience (PhD)	6	2	4					1
Doctoral Degree Totals	26	10	16	3	3	0	0	3
All Degree Totals	**135**	**41**	**94**	**48**	**39**	**20**	**22**	**7**
Joint Degree Program[3]								
PhD/MD (All PhD Degrees)								
PhD/MBA (All PhD Degrees)								
MS/MD (Translational and Health System Science)								
MS/BA-BS (Neuroscience)	1	1						
Joint Degree Totals	1	1	0	0	0	0	0	0
Graduate Certificate[3]								
Clinical and Translational Investigation	1		1					
Learning Health System Science	1		1	1	1	1	1	
Graduate Certificate Totals	2	0	2	1	1	1	1	0

Footnotes:

1. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
2. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
3. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Table 7. Percentage Change in Student Population by Student Demographics Within Academic Year
Academic Year 21-22

Table 7 shows the Percentage Change in Student Population, i.e., the expansion (owing to new enrollment) or contraction (owing to graduation, withdrawal, or dismissal) for each Wake Forest biomedical graduate program, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

The table also provides an accounting of applications received from international students. This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that had enrolled students for the academic year, the total percentage change is found under the column labeled Total Population. The remainder of the columns show the percentage change for the listed category. Under URM in STEM Careers, in the case that an enrolled student reported multiple URM categories, the enrolled student is only counted once in the "All Types" column. A companion chart offering a visualization of this data is also available. Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Gender		URM in STEM Careers				
Biomedical Degree Program	***Total Population***	***Male***	***Female***	***All Types***	***Ethnicity***	***Socioenomic***	***1st Generation***	***International Students***
Addiction Research and Clinical Health (MS)	-31%	-100%	-18%	-38%	-43%	-75%	-17%	0%
Biomedical Engineering (MS)[1]	-52%	-21%	-91%	0%	0%	0%	0%	-67%
Biomedical Sciences (MS - Pre-health Pathway)	-10%	43%	-18%	0%	3%	6%	11%	0%
Biomedical Sciences (MS - Research Pathway)	15%	22%	12%	6%	-9%	10%	-11%	0%
Clinical and Population Translational Science (MS)[2]	-40%	0%	-50%	-100%	-100%	-100%	-100%	0%
Clinical Research Management (MS)	27%	0%	38%	52%	58%	57%	56%	0%
Comparative Medicine (MS)								
Genetic Counseling (MS)	100%	100%	100%	100%	100%	100%	100%	0%
Health Disparities in Neuroscience-related Disorders (MS)	100%	0%	100%	0%	0%	0%	0%	0%
Healthcare Leadership (MHL)	55%	57%	54%	67%	78%	57%	64%	0%
Molecular Medicine and Translational Science (MS)								
Neuroscience (MS)	-12%	-17%	-8%	0%	0%	0%	0%	0%
Translational and Health System Science (MS)[2]	6%	9%	0%	33%	50%	67%	50%	0%
Master Degree Percentages	9%	11%	8%	20%	14%	18%	26%	-33%
Biochemistry and Molecular Biology (PhD)[3]	-33%	0%	-40%	0%	0%	0%	0%	0%
Biomedical Engineering (PhD)[1]	25%	24%	26%	55%	60%	75%	67%	20%
Cancer Biology (PhD)[3]	-22%	-9%	-43%	0%	-50%	0%	50%	20%
Integrative Physiology and Pharmacology (PhD)	4%	0%	6%	22%	0%	50%	33%	33%
Microbiology and Immunology (PhD)[3]	-25%	0%	-33%	0%	0%	0%	0%	0%
Molecular and Cellular Biosciences (Admission Track)[3]	100%	100%	100%	100%	100%	100%	100%	0%
Molecular Genetics and Genomics (PhD)[3]	0%	0%	0%	0%	0%	0%	0%	0%
Molecular Medicine and Translational Science (PhD)[3]	0%	15%	-11%	0%	-11%	100%	33%	-33%
Neuroscience (PhD)	6%	-6%	11%	0%	0%	0%	0%	-17%
Doctoral Degree Percentages	10%	13%	8%	22%	9%	59%	36%	14%
All Degree Percentages	**10%**	**12%**	**8%**	**21%**	**13%**	**28%**	**30%**	**6%**
Joint Degree Program[4]								
PhD/MD (All PhD Degrees)	38%	50%	0%	0%	0%	0%	0%	0%
PhD/MBA (All PhD Degrees)	0%	0%	0%	0%	0%	0%	0%	0%
MS/MD (Translational and Health System Science)	100%	100%	0%	100%	100%	100%	100%	0%
MS/BA-BS (Neuroscience)	25%	0%	33%	0%	0%	0%	0%	0%
Joint Degree Percentages	33%	40%	25%	33%	33%	100%	100%	0%
Graduate Certificate[4]								
Clinical and Translational Investigation	-100%	0%	-100%	0%	0%	0%	0%	0%
Learning Health System Science	-100%	0%	0%	0%	0%	0%	0%	0%
Graduate Certificate Percentages	-100%	0%	-50%	0%	0%	0%	0%	0%

Footnotes:

1. Biomedical Engineering (MS) and Biomedical Engineering (PhD) are joint degree programs with Virginia Tech. Applications to both degree programs are received through the Virginia Tech application system and data is shared with Wake Forest.
2. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
3. Biochemistry and Molecular Biology (PhD), Cancer Biology (PhD), Microbiology and Immunology (PhD), Molecular Genetics and Genomics (PhD), and Molecular Medicine and Translational Science (PhD) are all members of the Molecular and Cellular Biosciences Track. Admission to the first four programs is only through the Track, unless the student completes a biomedical MS program at Wake Forest first. Molecular Medicine and Translational Science (PhD) maintains a direct admission pathway for those with previous terminal clinical degrees that are entering clinical fellowship programs. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
4. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Chart 7A. Student Population Change by Wake Forest Biomedical Graduate Program
Academic Year 21-22

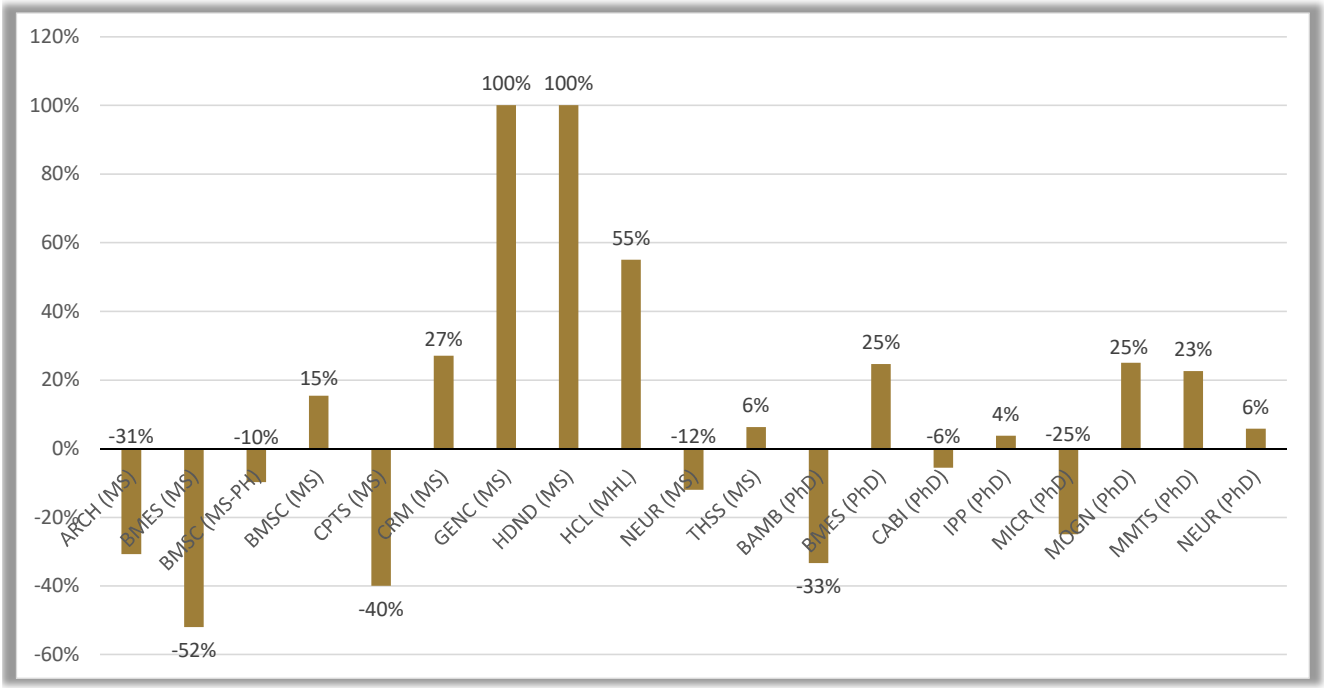

Chart 7A seeks to track the expansion (owing to new enrollment) or contraction (owing to graduation, withdrawal, or dismissal) for each Wake Forest biomedical graduate program. Students reported in the MCB track in other tables are re-assigned to their selected MCB program in this chart, in order to track the expansion and contraction of those programs.

Table 8. New Applicant Academic Credentials
Academic Year 21-22

Table 8 shows specific academic credential data for New Applicants, i.e., those that applied to join a Wake Forest biomedical graduate program, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that received applications for the academic year, the total count of applicants is found under the column labeled Total Population. The next sets of columns show the average full-time prior research experience (in months), the average undergraduate GPA reported on a 4.0 scale, and the average highest prior degree GPA on a 4.0 scale (which may include GPAs from successfully completed advanced degrees). Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Months of Prior Research			Undergraduate GPA			Highest Prior Degree GPA		
Biomedical Degree Program	***Total Population***	***All***	***Female***	***URM***	***All***	***Female***	***URM***	***All***	***Female***	***URM***
Addiction Research and Clinical Health (MS)	9	5.11	5.75	3.75	3.38	3.39	3.33	3.40	3.40	3.34
Biomedical Engineering (MS)[1]	36				3.53	3.57	3.40	3.53	3.57	3.40
Biomedical Sciences (MS - Pre-health Pathway)	79	17.82	19.22	21.98	3.15	3.02	3.01	3.22	3.12	4.10
Biomedical Sciences (MS - Research Pathway)	56	10.04	10.95	11.52	3.30	3.40	3.24	3.34	3.41	3.27
Clinical and Population Translational Science (MS)[2]										
Clinical Research Management (MS)	35	18.31	18.30	16.00	2.90	2.93	2.91	3.09	3.15	2.95
Comparative Medicine (MS)										
Genetic Counseling (MS)	78	9.96	10.27	8.17	3.43	3.41	3.49	3.49	3.47	3.50
Health Disparities in Neuroscience-related Disorders (MS)	4	0.00	0.00	0.00	3.38	3.31	2.85	3.58	3.58	3.66
Healthcare Leadership (MHL)[4]	44				2.97	2.89	2.98	3.16	3.12	3.03
Molecular Medicine and Translational Science (MS)	1	36.00	36.00	36.00	3.70	3.70	3.70	3.70	3.70	3.70
Neuroscience (MS)	26	1.62	0.93	0.67	3.40	3.46	3.27	3.42	3.46	3.29
Translational and Health System Science (MS)[2]	6	7.00	12.00	4.00	3.63	3.57	3.52	3.63	3.57	3.52
Master Degree Totals/Averages	374	11.76	12.60	11.34	3.34	3.33	3.25	3.41	3.41	3.43
Biochemistry and Molecular Biology (PhD)[3]										
Biomedical Engineering (PhD)[1]	119				3.50	3.52	3.29	3.64	3.60	3.43
Cancer Biology (PhD)[3]	1	37.00		37.00	3.29		3.29	3.97		3.97
Integrative Physiology and Pharmacology (PhD)	34	17.62	15.41	18.08	3.39	3.59	3.57	3.60	3.64	3.64
Microbiology and Immunology (PhD)[3]										
Molecular and Cellular Biosciences (Admission Track)[3]	138	23.17	20.83	23.05	3.33	3.50	3.44	3.55	3.63	3.58
Molecular Genetics and Genomics (PhD)[3]										
Molecular Medicine and Translational Science (PhD)[3]	7	33.57	45.00	34.50	3.71	3.65	3.33	3.75	3.77	3.58
Neuroscience (PhD)	83	19.96	20.31	21.31	3.43	3.49	3.41	3.60	3.60	3.52
Doctoral Degree Totals/Averages	382	26.26	25.39	26.79	3.44	3.55	3.39	3.69	3.65	3.62
All Degrees Totals/Averages	**756**	**16.94**	**16.54**	**16.86**	**3.38**	**3.40**	**3.30**	**3.51**	**3.49**	**3.50**
Joint Degree Program[5]										
PhD/MD (All PhD Degrees)	3	14.00			3.97			3.97		
PhD/MBA (All PhD Degrees)										
MS/MD (Translational and Health System Science)	1	0.00		0.00	3.27		3.27	3.27		3.27
MS/BA-BS (Neuroscience)	4	3.50	4.33	8.00	3.62	3.58	3.60	3.63	3.58	3.60
Joint Degree Totals/Averages	8	5.83	4.33	4.00	3.62	3.58	3.44	3.62	3.58	3.44
Graduate Certificate[5]										
Clinical and Translational Investigation										
Learning Health System Science										
Graduate Certificate Totals/Averages										

Footnotes:

1. Biomedical Engineering (MS) and Biomedical Engineering (PhD) are joint degree programs with Virginia Tech. Applications to both degree programs are received through the Virginia Tech application system and data is shared with Wake Forest. The Biomedical Engineering applications do not ask a question about the number of months of prior research, therefore, this academic credential data is unavailable for their applicant pool.
2. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
3. Biochemistry and Molecular Biology (PhD), Cancer Biology (PhD), Microbiology and Immunology (PhD), Molecular Genetics and Genomics (PhD), and Molecular Medicine and Translational Science (PhD) are all members of the Molecular and Cellular Biosciences Track. Admission to the first four programs is only through the Track, unless the student completes a biomedical MS program at Wake Forest first. Molecular Medicine and Translational Science (PhD) maintains a direct admission pathway for those with previous terminal clinical degrees that are entering clinical fellowship programs. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
4. Applicants to the Healthcare Leadership (MHL) program are not offered an opportunity to report their prior research experience, therefore, this academic credential data is unavailable for all applicants, including those that were accepted and enroll as degree seekers for this program.
5. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Table 9. New Accepted Student Academic Credentials
Academic Year 21-22

Table 9 shows specific academic credential data for New Accepted Students, i.e., those to whom an offer letter to join a Wake Forest biomedical graduate program was extended, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that accepted new students for the academic year, the total count of new accepted students is found under the column labeled Total Population. The next sets of columns show the average full-time prior research experience (in months), the average undergraduate GPA reported on a 4.0 scale, and the average highest prior degree GPA on a 4.0 scale (which may include GPAs from successfully completed advanced degrees). Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Months of Prior Research			Undergraduate GPA			Highest Prior Degree GPA		
Biomedical Degree Program	***Total Population***	***All***	***Female***	***URM***	***All***	***Female***	***URM***	***All***	***Female***	***URM***
Addiction Research and Clinical Health (MS)	7	3.00	3.50	3.75	3.40	3.41	3.33	3.41	3.43	3.34
Biomedical Engineering (MS)[1]	19				3.54	3.54	3.54	3.54	3.54	3.54
Biomedical Sciences (MS - Pre-health Pathway)	43	26.93	25.79	30.30	3.23	3.19	3.16	3.23	3.20	3.16
Biomedical Sciences (MS - Research Pathway)	42	10.17	11.45	12.13	3.43	3.49	3.28	3.46	3.49	3.27
Clinical and Population Translational Science (MS)[2]										
Clinical Research Management (MS)	31	20.06	20.38	17.81	2.91	2.94	2.88	3.12	3.19	2.93
Comparative Medicine (MS)										
Genetic Counseling (MS)	8	11.25	12.86	8.00	3.63	3.63	3.55	3.63	3.63	3.55
Health Disparities in Neuroscience-related Disorders (MS)	3	0.00	0.00		3.55	3.54		3.55	3.54	
Healthcare Leadership (MHL)[4]	31				3.03	2.92	3.06	3.20	3.16	3.03
Molecular Medicine and Translational Science (MS)										
Neuroscience (MS)	13	3.23	1.86	2.67	3.59	3.61	3.64	3.60	3.62	3.64
Translational and Health System Science (MS)[2]	6	7.00	12.00	4.00	3.63	3.57	3.53	3.63	3.57	3.52
Master Degree Totals/Averages	203	10.21	10.98	11.24	3.39	3.38	3.33	3.44	3.44	3.33
Biochemistry and Molecular Biology (PhD)[3]										
Biomedical Engineering (PhD)[1]	24				3.54	3.65	3.42	3.66	3.66	3.52
Cancer Biology (PhD)[3]	1	37.00		37.00	3.29		3.29	3.97		3.97
Integrative Physiology and Pharmacology (PhD)	14	24.43	22.75	32.75	3.63	3.66	3.56	3.68	3.66	3.72
Microbiology and Immunology (PhD)[3]										
Molecular and Cellular Biosciences (Admission Track)[3]	34	24.03	21.50	24.15	3.57	3.66	3.58	3.65	3.74	3.71
Molecular Genetics and Genomics (PhD)[3]										
Molecular Medicine and Translational Science (PhD)[3]	5	24.39	49.50	21.00	3.68	3.63	3.28	3.90	3.81	3.78
Neuroscience (PhD)	23	23.33	25.17	29.38	3.66	3.67	3.69	3.69	3.74	3.62
Doctoral Degree Totals/Averages	101	26.83	29.73	28.86	3.56	3.65	3.47	3.76	3.72	3.72
All Degrees Totals/Averages	**304**	**17.33**	**17.23**	**18.58**	**3.46**	**3.47**	**3.39**	**3.56**	**3.53**	**3.49**
Joint Degree Program[5]										
PhD/MD (All PhD Degrees)	3	14.00			3.97			3.97		
PhD/MBA (All PhD Degrees)										
MS/MD (Translational and Health System Science)	1	0.00		0.00	3.27		3.27	3.27		3.27
MS/BA-BS (Neuroscience)	4	3.50	4.33	8.00	3.62	3.58	3.60	3.63	3.58	3.60
Joint Degree Totals/Averages	8	4.38	4.33	2.67	3.51	3.58	3.35	3.52	3.58	3.35
Graduate Certificate[5]										
Clinical and Translational Investigation										
Learning Health System Science										
Graduate Certificate Totals/Averages										

Footnotes:

1. Biomedical Engineering (MS) and Biomedical Engineering (PhD) are joint degree programs with Virginia Tech. Applications to both degree programs are received through the Virginia Tech application system and data is shared with Wake Forest. The Biomedical Engineering applications do not ask a question about the number of months of prior research, therefore, this academic credential data is unavailable for their applicant pool.
2. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
3. Biochemistry and Molecular Biology (PhD), Cancer Biology (PhD), Microbiology and Immunology (PhD), Molecular Genetics and Genomics (PhD), and Molecular Medicine and Translational Science (PhD) are all members of the Molecular and Cellular Biosciences Track. Admission to the first four programs is only through the Track, unless the student completes a biomedical MS program at Wake Forest first. Molecular Medicine and Translational Science (PhD) maintains a direct admission pathway for those with previous terminal clinical degrees that are entering clinical fellowship programs. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
4. Applicants to the Healthcare Leadership (MHL) program are not offered an opportunity to report their prior research experience, therefore, this academic credential data is unavailable for all applicants, including those that were accepted and enroll as degree seekers for this program.
5. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Table 10. Newly Enrolled Student Academic Credentials
Academic Year 21-22

Table 10 shows specific academic credential data for Newly Enrolled Students, i.e., those that joined a Wake Forest biomedical graduate program after receiving an offer letter, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that enrolled new students for the academic year, the total count of newly enrolled students is found under the column labeled Total Population. The next sets of columns show the average full-time prior research experience (in months), the average undergraduate GPA reported on a 4.0 scale, and the average highest prior degree GPA on a 4.0 scale (which may include GPAs from successfully completed advanced degrees). Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Months of Prior Research			Undergraduate GPA			Highest Prior Degree GPA		
Biomedical Degree Program	***Total Population***	***All***	***Female***	***URM***	***All***	***Female***	***URM***	***All***	***Female***	***URM***
Addiction Research and Clinical Health (MS)	5	4.20	4.20	5.00	3.31	3.31	3.33	3.33	3.33	3.34
Biomedical Engineering (MS)[1]	4				3.39	3.09	3.54	3.39	3.09	3.54
Biomedical Sciences (MS - Pre-health Pathway)	30	31.57	28.79	38.33	3.24	3.22	3.17	3.24	3.23	3.17
Biomedical Sciences (MS - Research Pathway)	28	7.79	7.17	7.75	3.42	3.49	3.31	3.46	3.49	3.30
Clinical and Population Translational Science (MS)[2]										
Clinical Research Management (MS)	23	20.09	20.74	11.79	2.92	2.99	2.90	3.04	3.13	2.96
Comparative Medicine (MS)										
Genetic Counseling (MS)	8	11.25	12.86	8.00	3.63	3.63	3.51	3.63	3.63	3.55
Health Disparities in Neuroscience-related Disorders (MS)	1	0.00	0.00		3.12	3.12		3.12	3.12	
Healthcare Leadership (MHL)[4]	22				2.94	2.76	2.92	3.09	3.03	2.83
Molecular Medicine and Translational Science (MS)										
Neuroscience (MS)	8	4.25	1.25		3.52	3.52		3.54	3.54	
Translational and Health System Science (MS)[2]	6	7.00	12.00	4.00	3.63	3.57	3.52	3.63	3.57	3.52
Master Degree Totals/Averages	135	10.77	10.88	12.48	3.31	3.27	3.28	3.35	3.32	3.28
Biochemistry and Molecular Biology (PhD)[3]										
Biomedical Engineering (PhD)[1]	18				3.48	3.56	3.37	3.48	3.57	3.46
Cancer Biology (PhD)[3]	1	37.00		37.00	3.29		3.29	3.29		3.97
Integrative Physiology and Pharmacology (PhD)	4	29.25	22.50	36.00	3.61	3.44	3.96	3.68	3.44	3.93
Microbiology and Immunology (PhD)[3]										
Molecular and Cellular Biosciences (Admission Track)[3]	11	30.73	27.29	26.60	3.56	3.67	3.55	3.56	3.74	3.66
Molecular Genetics and Genomics (PhD)[3]										
Molecular Medicine and Translational Science (PhD)[3]	5	27.80	49.50	21.00	3.68	3.63	3.28	3.68	3.81	3.78
Neuroscience (PhD)	9	27.00	26.88		3.53	3.57		3.53	3.68	
Doctoral Degree Totals/Averages	48	30.36	31.54	30.15	3.53	3.57	3.49	3.54	3.65	3.76
All Degrees Totals/Averages	**183**	**18.30**	**17.77**	**19.55**	**3.39**	**3.37**	**3.36**	**3.42**	**3.43**	**3.46**
Joint Degree Program[5]										
PhD/MD (All PhD Degrees)	3	14.00			3.97			3.97		
PhD/MBA (All PhD Degrees)										
MS/MD (Translational and Health System Science)	1	0.00		0.00	3.27		3.27	3.27		3.27
MS/BA-BS (Neuroscience)	3	2.00	2.50		3.62	3.57		3.64	3.57	
Joint Degree Totals/Averages	7	4.00	2.50	0.00	3.51	3.57	3.23	3.52	3.57	3.23
Graduate Certificate[5]										
Clinical and Translational Investigation										
Learning Health System Science										
Graduate Certificate Totals/Averages										

Footnotes:

1. Biomedical Engineering (MS) and Biomedical Engineering (PhD) are joint degree programs with Virginia Tech. Applications to both degree programs are received through the Virginia Tech application system and data is shared with Wake Forest. The Biomedical Engineering applications do not ask a question about the number of months of prior research, therefore, this academic credential data is unavailable for their applicant pool.
2. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
3. Biochemistry and Molecular Biology (PhD), Cancer Biology (PhD), Microbiology and Immunology (PhD), Molecular Genetics and Genomics (PhD), and Molecular Medicine and Translational Science (PhD) are all members of the Molecular and Cellular Biosciences Track. Admission to the first four programs is only through the Track, unless the student completes a biomedical MS program at Wake Forest first. Molecular Medicine and Translational Science (PhD) maintains a direct admission pathway for those with previous terminal clinical degrees that are entering clinical fellowship programs. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
4. Applicants to the Healthcare Leadership (MHL) program are not offered an opportunity to report their prior research experience, therefore, this academic credential data is unavailable for all applicants, including those that were accepted and enroll as degree seekers for this program.
5. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Table 11. All Enrolled Student GPA Tracking
Academic Year 21-22

Table 11 shows specific academic credential data for All Enrolled Students, i.e., those that were enrolled in a Wake Forest biomedical graduate program as a degree seeking student in at least 1 term, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that had enrolled students in the academic year, the total count of students is found under the column labeled Total Population. The next sets of columns show the average highest prior degree GPA on a 4.0 scale (which may include GPAs from successfully completed advanced degrees), and the average graduate GPA on a 4.0 scale for a student's last enrolled term. Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Highest Prior Degree GPA			Current Graduate GPA		
Biomedical Degree Program	***Total Population***	***All***	***Female***	***URM***	***All***	***Female***	***URM***
Addiction Research and Clinical Health (MS)	13	3.45	3.47	3.48	3.82	3.82	3.82
Biomedical Engineering (MS)[1]	25	3.53	3.54	3.56	3.75	3.81	3.81
Biomedical Sciences (MS - Pre-health Pathway)	51	3.23	3.24	3.18	3.83	3.85	3.79
Biomedical Sciences (MS - Research Pathway)	52	3.38	3.45	3.23	3.47	3.48	3.39
Clinical and Population Translational Science (MS)[2]	5	3.22	3.22	3.10	3.59	3.71	3.63
Clinical Research Management (MS)	48	3.28	3.30	3.35	3.61	3.61	3.63
Comparative Medicine (MS)							
Genetic Counseling (MS)	8	3.63	3.63	3.55	3.89	3.93	4.00
Health Disparities in Neuroscience-related Disorders (MS)	1	3.12	3.12		3.54	3.54	
Healthcare Leadership (MHL)	40	3.30	3.33	3.18	3.63	3.61	3.34
Molecular Medicine and Translational Science (MS)							
Neuroscience (MS)	25	3.53	3.48	3.45	3.75	3.71	2.42
Translational and Health System Science (MS)[2]	16	3.70	3.73	3.62	3.75	3.69	3.71
Master Degree Totals/Averages	284	3.40	3.41	3.37	3.69	3.71	3.55
Biochemistry and Molecular Biology (PhD)[3]	6	3.52	3.47	3.73	3.77	3.74	3.88
Biomedical Engineering (PhD)[1]	61	3.61	3.57	3.56	3.74	3.79	3.78
Cancer Biology (PhD)[3]	18	3.47	3.74	3.36	3.69	3.71	3.54
Integrative Physiology and Pharmacology (PhD)	27	3.48	3.52	3.69	3.73	3.82	3.63
Microbiology and Immunology (PhD)[3]	8	3.47	3.49	3.45	3.63	3.77	3.81
Molecular and Cellular Biosciences (Admission Track)[3]	11	3.67	3.74	3.66	3.68	3.67	3.58
Molecular Genetics and Genomics (PhD)[3]	4	3.59	3.72	3.59	3.62	3.89	3.62
Molecular Medicine and Translational Science (PhD)[3]	31	3.67	3.66	3.55	3.71	3.76	3.77
Neuroscience (PhD)	52	3.56	3.61	3.57	3.89	3.89	3.87
Doctoral Degree Totals/Averages	218	3.56	3.61	3.57	3.72	3.78	3.72
All Degrees Totals/Averages	502	3.47	3.50	3.47	3.70	3.74	3.63
Joint Degree Program[4]							
PhD/MD (All PhD Degrees)	8	3.80	3.68		3.69	3.94	
PhD/MBA (All PhD Degrees)	1	3.19		3.19	3.83		3.83
MS/MD (Translational and Health System Science)	1	3.27		3.27	3.50		3.50
MS/BA-BS (Neuroscience)	8	3.53	3.52	3.45	3.61	3.55	2.42
Joint Degree Totals/Averages	18	3.45	3.60	3.30	3.66	3.75	3.25
Graduate Certificate[4]							
Clinical and Translational Investigation	1	4.00	4.00		3.90	3.90	
Learning Health System Science	1	3.28	3.28	3.28	3.50	3.50	3.50
Graduate Certificate Totals/Averages	2	3.64	3.64	3.28	3.70	3.70	3.50

Footnotes:

1. Biomedical Engineering (MS) and Biomedical Engineering (PhD) are joint degree programs with Virginia Tech. Applications to both degree programs are received through the Virginia Tech application system and data is shared with Wake Forest.
2. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
3. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
4. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Chart 11A. Highest Prior Degree GPA v. Current Graduate GPA Averages for All Students by Wake Forest Biomedical Graduate Program Academic Year 21-22

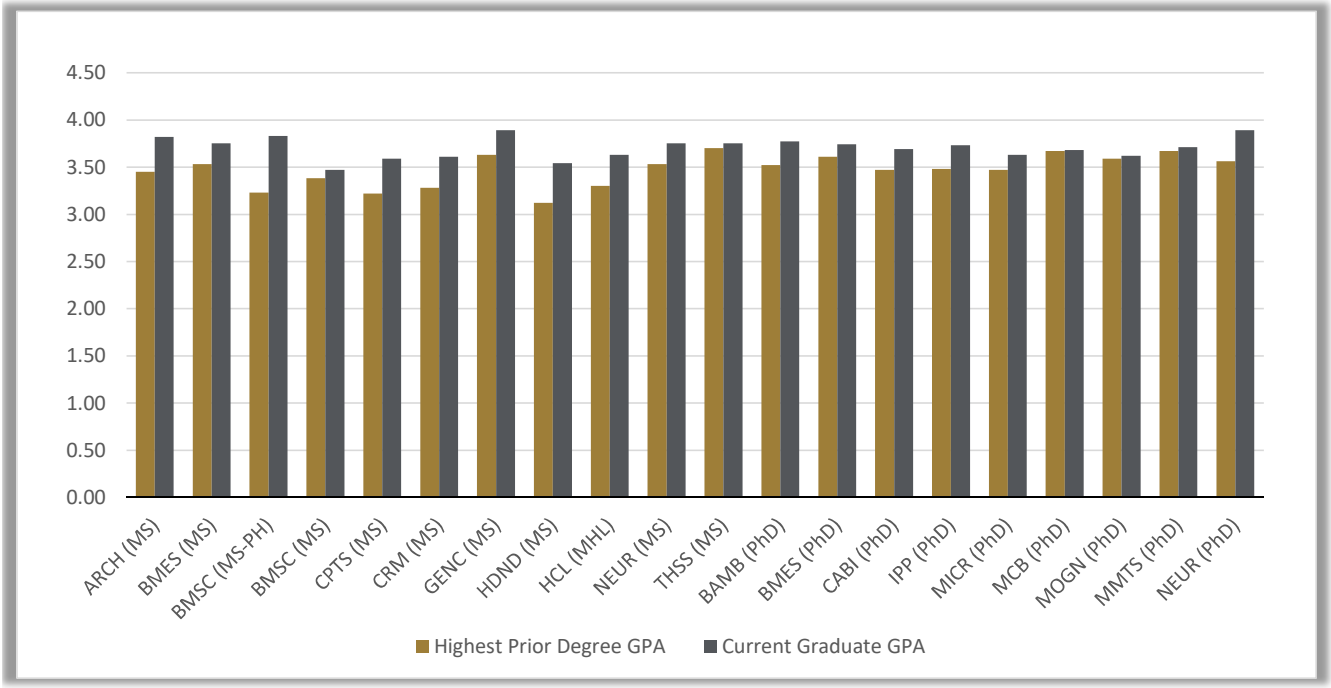

Chart 11A seeks to compare the average highest prior degree GPA with current graduate GPA for all enrolled students in each Wake Forest biomedical degree program.

Chart 11B. Highest Prior Degree GPA v. Current Graduate GPA Averages for All Wake Forest Biomedical Graduate Students by Degree v. Females and URMs
Academic Year 21-22

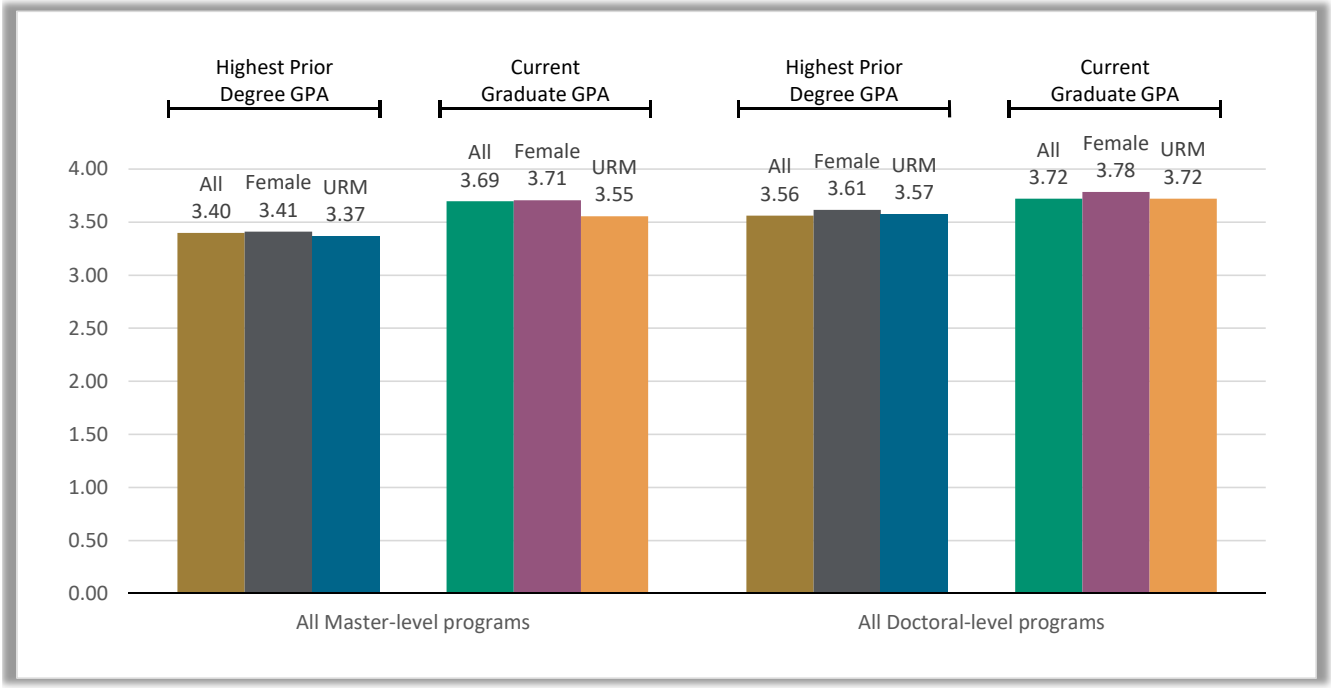

Chart 11B seeks to compare the average highest prior degree GPA with current graduate GPA by degree-level (Master vs. Doctoral) for all biomedical students vs. our targeted sub-populations of females and URMs. In general, students tend to have higher GPAs in biomedical graduate programs than in their prior degrees pursued.

Table 12. All Enrolled Student Academic Deficiency Tracking
Academic Year 21-22

Table 12 shows specific academic deficiency data for All Enrolled Students, i.e., those that were enrolled in a Wake Forest biomedical graduate program as a degree seeking student in at least 1 term, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that had enrolled students for the academic year, the total count of enrolled students is found under the column labeled Total Population. The next sets of columns show the count of four specific markers of academic deficiencies, including two unsatisfactory academic progress markers: at-risk for graduation and academic probation, and two change in status markers: withdrawals and dismissals. At-Risk for Graduation status denotes any student that carried a GPA between 2.5 and 3.0 at the end of any academic term in the academic year. A single student who was in this category in multiple terms is only counted once within this category. Academic Probation status denotes any student that carried a GPA below 2.5 or received an Unsatisfactory grade in Research, Capstone Project, or Internship hours in any academic term in the academic year. A single student who was in this category in multiple terms is only counted once within this category. In the case of Withdrawals, we report only those that were withdrawn for a reason that denotes an academic deficiency, including the reasons "Honor Code Sanction" or "Academic Difficulty". The reason "Student Choice" can only be logged in a case where a student is making satisfactory academic progress. Those withdrawing for the reason of "Student Choice" are not included in this table, as they are not considered as having an academic deficiency. Dismissals are administered by the Dean, following a recommendation by the program, in cases where the student is failing to make satisfactory academic progress. Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Unsatisfactory Academic Progress									Changes in Status/Departures					
		All Types			At-risk for Graduation			Academic Probation			Withdrawals			Dismissals		
Biomedical Degree Program	***Total Population***	***All***	***Female***	***URMs***	***All***	***Female***	***URMs***	***All***	***Female***	***URMs***	***All***	***Female***	***URMs***	***All***	***Female***	***URMs***
Addiction Research and Clinical Health (MS)	13															
Biomedical Engineering (MS)	25															
Biomedical Sciences (MS - Pre-health Pathway)	51	1	1	1	1	1	1									
Biomedical Sciences (MS - Research Pathway)	52	10	7	5	7	4	4	7	5	3	1	1				
Clinical and Population Translational Science (MS)[1]	5															
Clinical Research Management (MS)	48	3	1	2				3	1	2	1	1		1	1	1
Comparative Medicine (MS)																
Genetic Counseling (MS)	8															
Health Disparities in Neuroscience-related Disorders (MS)	1															
Healthcare Leadership (MHL)	40	2	1	1				2	1	1	1		1	1	1	
Molecular Medicine and Translational Science (MS)																
Neuroscience (MS)	25	2	1	1				2	1	1						
Translational and Health System Science (MS)[1]	16															
Master Degree Totals	284	18	11	10	8	5	5	14	8	7	3	2	1	2	2	1
Biochemistry and Molecular Biology (PhD)[2]	6															
Biomedical Engineering (PhD)	61	2	1	1				2	1	1						
Cancer Biology (PhD)[2]	18	1						1								
Integrative Physiology and Pharmacology (PhD)	27	3		2				3		2						
Microbiology and Immunology (PhD)[2]	8															
Molecular and Cellular Biosciences (Admission Track)[2]	11	1	1	1	1	1	1									
Molecular Genetics and Genomics (PhD)[2]	4															
Molecular Medicine and Translational Science (PhD)[2]	31	1						1			1					
Neuroscience (PhD)	52	3	3	1	1	1		2	2	1	2	2				
Doctoral Degree Totals	218	11	5	5	2	2	1	9	3	4	3	2	0	0	0	0
All Degrees Totals	502	29	16	15	10	7	6	23	11	11	6	4	1	2	2	1
Joint Degree Program[3]																
PhD/MD (All PhD Degrees)	8	1						1								
PhD/MBA (All PhD Degrees)	1															
MS/MD (Translational and Health System Science)	1															
MS/BA-BS (Neuroscience)	8	1	1	1				1	1	1						
Joint Degree Totals	18	2	1	1	0	0	0	2	1	1	0	0	0	0	0	0
Graduate Certificate[3]																
Clinical and Translational Investigation	1															
Learning Health System Science	1															
Graduate Certificate Totals	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Footnotes:

1. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
2. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
3. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Chart 12A. Percentage of Students Maintaining Satisfactory Academic Progress by Wake Forest Biomedical Graduate Program
Academic Year 21-22

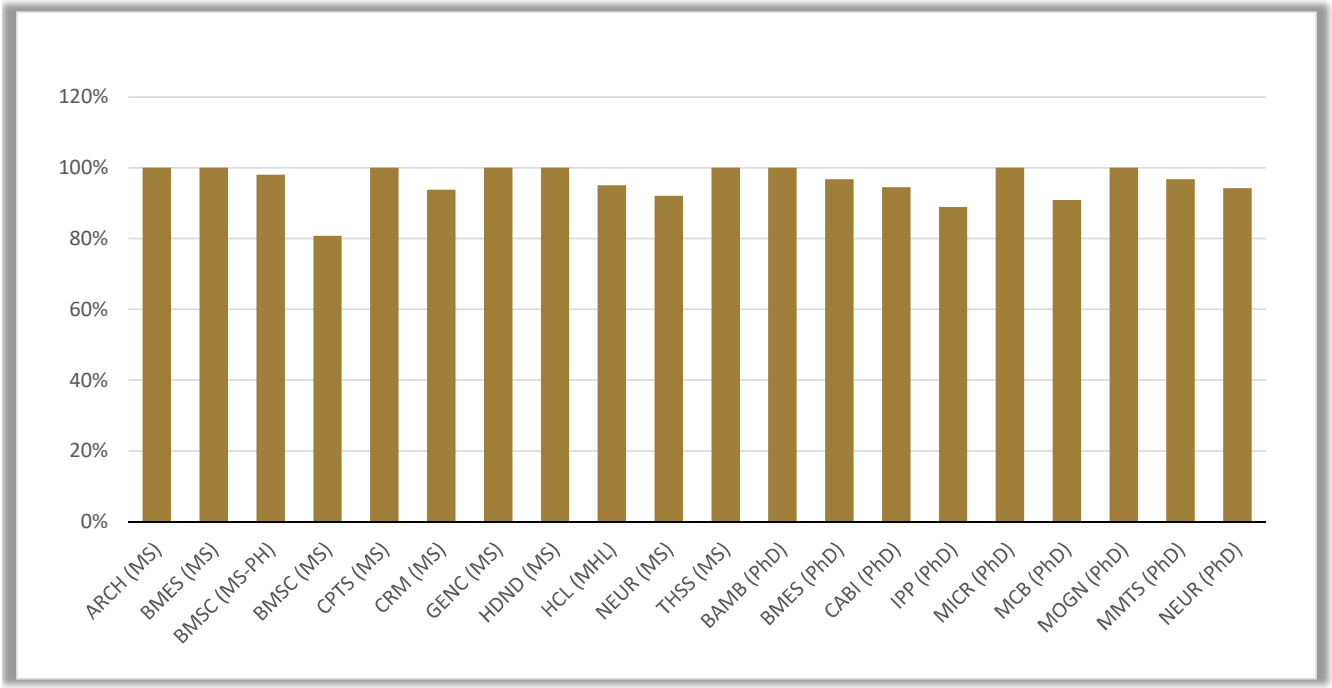

Chart 12A seeks to track the percentage of students that are avoiding academic deficiencies, in the form of academic probation or graduation at-risk status, in each Wake Forest biomedical degree program. A finding of 100% indicates that all students in the program made satisfactory academic progress throughout the academic year. An individual student who was both at-risk for graduation and on academic probation in a given year is only counted once for the purposes of this chart.

Chart 12B. Percentage of Students Maintaining Satisfactory Academic Progress for All Wake Forest Biomedical Graduate Program by Degree v. Females and URMs
Academic Year 21-22

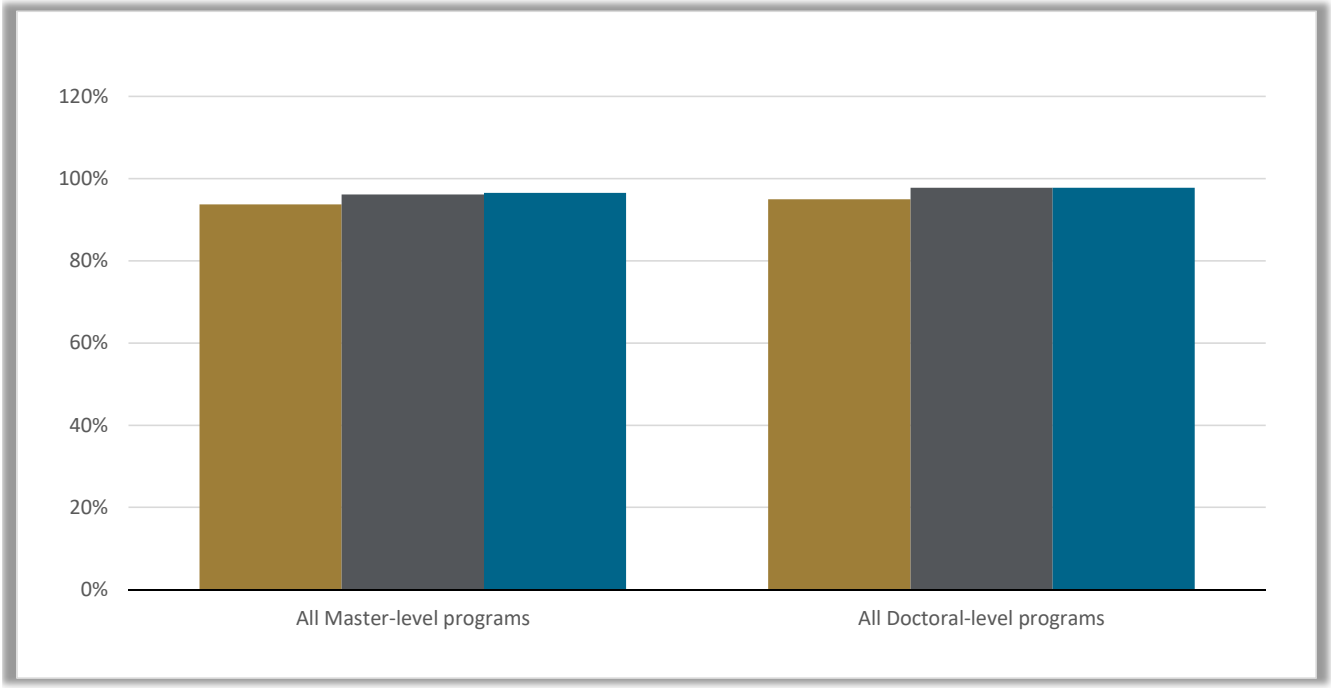

Chart 12B seeks to track the percentage of students that are avoiding academic deficiencies, in the form of academic probation or graduation at-risk status, by degree-level (Master vs. Doctoral) for all biomedical students vs. our targeted sub-populations of females and URMs. A finding of 100% indicates that all students in the program made satisfactory academic progress throughout the academic year. In the case of both females and URMs, satisfactory academic progress rate compares favorably with all biomedical graduate students. An individual student who was both at-risk for graduation and on academic probation in a given year is only counted once for the purposes of this chart.

Table 13. Degree Conferral Metrics
Academic Year 21-22

Table 13 shows specific data related to Degree Conferrals, i.e., data for those Wake Forest biomedical students that successfully completed their degree pursuit, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that graduated students in the academic year, the total count of enrolled students is found under the column labeled Total Population. The next sets of columns show the count of conferred degrees, and both the average time-to-degree and the on-time completion rate for the cohort who graduated. Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Degree Conferrals			Average Time to Degree (Years)			On-time Completion Rate[4]		
Biomedical Degree Program	***Total Population***	***All***	***Female***	***URM***	***All***	***Female***	***URM***	***All***	***Female***	***URM***
Addiction Research and Clinical Health (MS)	13	9	7	6	1.30	1.27	1.29	100%	100%	100%
Biomedical Engineering (MS)	25	17	10	2	1.85	2.75	1.79	88%	80%	100%
Biomedical Sciences (MS - Pre-health Pathway)	51	35	32	24	1.03	1.03	0.99	74%	75%	83%
Biomedical Sciences (MS - Research Pathway)	52	20	14	7	1.57	1.54	1.53	90%	86%	86%
Clinical and Population Translational Science (MS)[1]	5	2	2	2	4.24	4.24	4.24	0%	0%	0%
Clinical Research Management (MS)	48	10	6	2	1.72	1.72	1.72	100%	100%	100%
Comparative Medicine (MS)	0									
Genetic Counseling (MS)	8									
Health Disparities in Neuroscience-related Disorders (MS)	1									
Healthcare Leadership (MHL)	40									
Molecular Medicine and Translational Science (MS)	0									
Neuroscience (MS)	25	11	5		1.83	1.92		82%	80%	
Translational and Health System Science (MS)[1]	16	5	1	2	1.55	1.72	1.59	60%	0%	50%
Master Degree Totals/Averages/Percentages	284	109	77	45	1.89	2.02	1.88	74%	65%	74%
Biochemistry and Molecular Biology (PhD)[2]	6	2	2		4.90	4.90		50%	50%	
Biomedical Engineering (PhD)	61	3			4.23			100%		
Cancer Biology (PhD)[2]	18	5	3	1	4.58	5.07	4.23	80%	67%	100%
Integrative Physiology and Pharmacology (PhD)	27	3	1		5.50	6.73		67%	0%	
Microbiology and Immunology (PhD)[2]	8	2	2		5.00	5.00		50%	50%	
Molecular and Cellular Biosciences (Admission Track)[2]	11									
Molecular Genetics and Genomics (PhD)[2]	4									
Molecular Medicine and Translational Science (PhD)[2]	31	5	4	2	4.56	4.49	4.62	80%	75%	100%
Neuroscience (PhD)	52	6	4		5.33	5.56		50%	25%	
Doctoral Degree Totals/Averages/Percentages	218	26	16	3	4.87	5.29	4.43	68%	44%	100%
All Degrees Totals/Averages/Percentages	502	135	93	48	3.28	3.42	2.44	71%	56%	80%
Joint Degree Program[3]										
PhD/MD (All PhD Degrees)	8									
PhD/MBA (All PhD Degrees)	1									
MS/MD (Translational and Health System Science)	1									
MS/BA-BS (Neuroscience)	8	1			2.85			100%		
Joint Degree Totals/Averages/Percentages	18	1	0	0	2.85	#DIV/0!	#DIV/0!	100%	#DIV/0!	#DIV/0!
Graduate Certificate[3]										
Clinical and Translational Investigation	1									
Learning Health System Science	1	1								
Graduate Certificate Totals/Averages/Percentages	2	1	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Footnotes:

1. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
2. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
3. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.
4. On-time completion rates are determined based on the plan of study for each program. Any student that exits and then re-enters the curriculum, as is the case in leaves of absence or joint degree program students have their time to degree adjusted to reflect only the time in which the student was actively pursuing their degree. Wake Forest biomedical programs currently use the following metrics for on-time degree completion rates (in years):
   a) 5.1 for doctoral programs
   b) 2.1 for thesis-based master programs
   c) 1.8 for programs having a 5-term plan of study
   d) 1.5 for programs having a 4-term plan of study
   e) 1.1 for programs having a 3-term plan of study

Chart 13A. Total Student Enrollment v. Degree Conferral Count by Wake Forest Biomedical Graduate Program
Academic Year 21-22

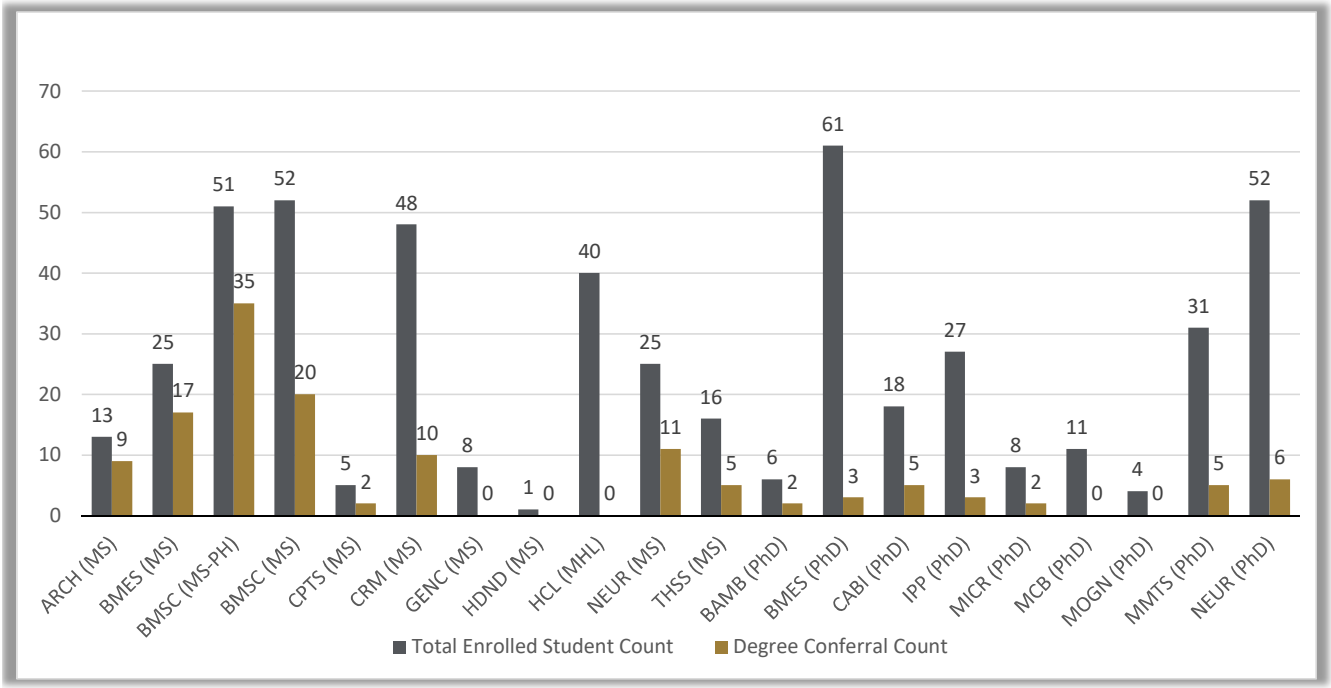

Chart 13A seeks to track the total student headcount in each Wake Forest biomedical degree program in comparison to the number of degrees conferred by that program for the current academic year. As expected, turnover in master programs happens at a much higher rate than in doctoral programs.

Chart 13B. Degree Conferral Count for All Wake Forest Biomedical Graduate Students by Degree v. Females and URMs
Academic Year 21-22

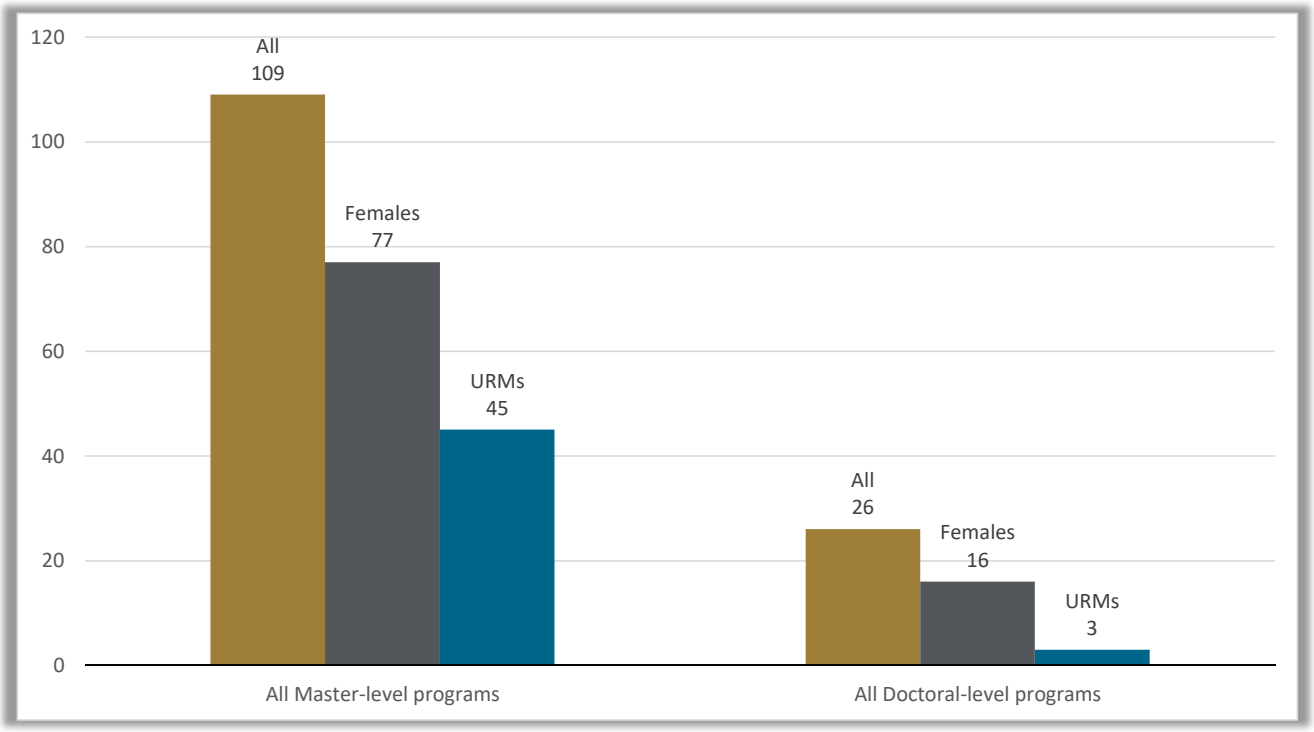

Chart 13B seeks to track the total number of degrees conferred by degree-level (Master vs. Doctoral) for all biomedical students vs. our targeted sub-populations of females and URMs. In the case of URMs, 51% of our master-level graduates are URMs, while 10% of our doctoral-level graduates are URMs. Females are more even distributed, amounting to 60% of master-level graduates and 48% of doctoral-level graduates.

Chart 13C. Average Time-to-Degree (in Years) for Graduated Students by Wake Forest Biomedical Graduate Program
Academic Year 21-22

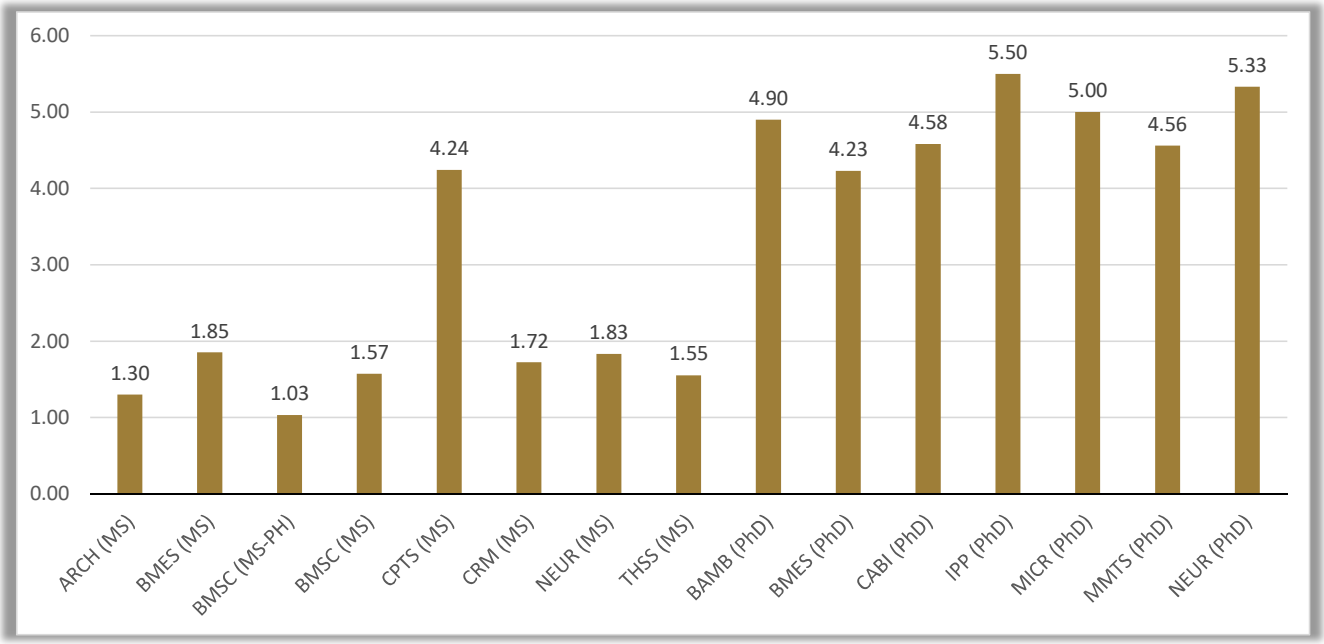

Chart 13C seeks to track the average time-to-degree in each Wake Forest biomedical degree program in. As expected, time-to-degree in master programs is significantly lower than in doctoral programs. That said, time-to-degree decreased for master-level and doctoral-level degrees for the current academic year.

Chart 13D. Average Time-to-Degree (in Years) for All Wake Forest Biomedical Graduate Students by Degree v. Females and URMs
Academic Year 21-22

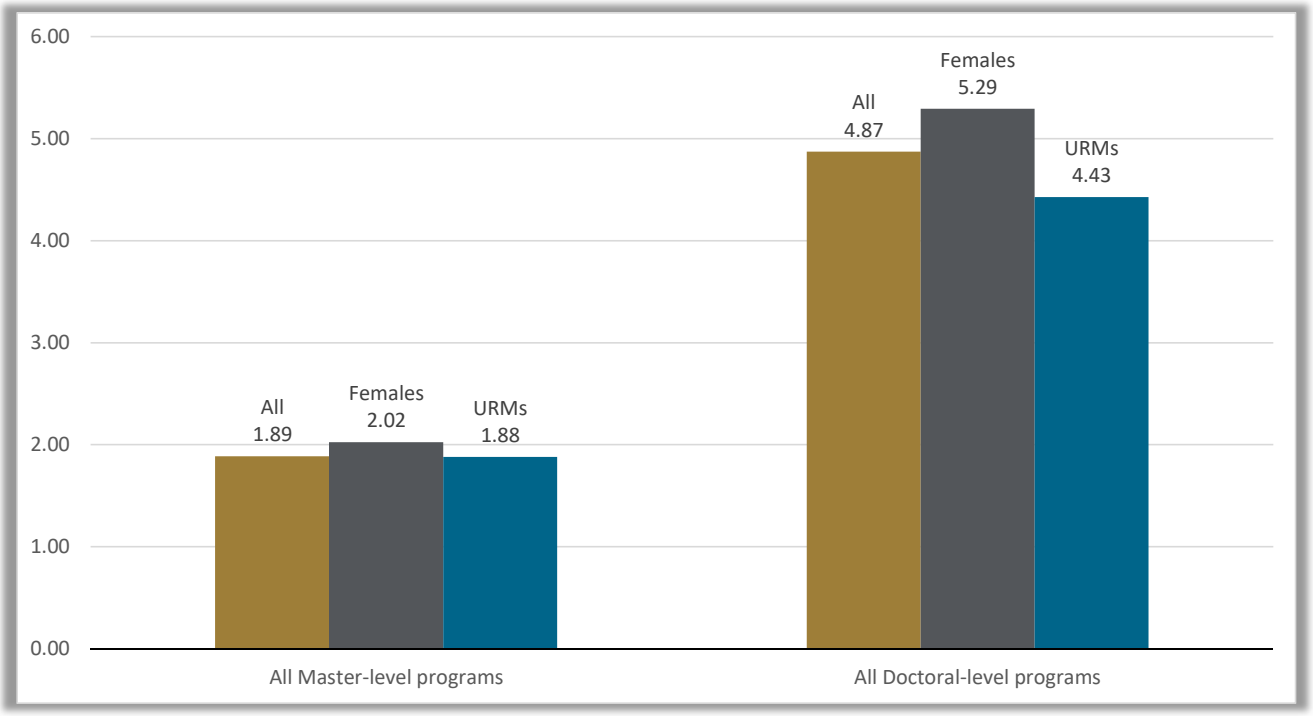

Chart 13D seeks to track the average time-to-degree by degree-level (Master vs. Doctoral) for all biomedical students vs. our targeted sub-populations of females and URMs. In the case of both females and URMs, time-to-degree compares favorably with all biomedical graduate students.

Chart 13E. On-time Degree Completion Rate for Graduated Students by Wake Forest Biomedical Graduate Program
Academic Year 21-22

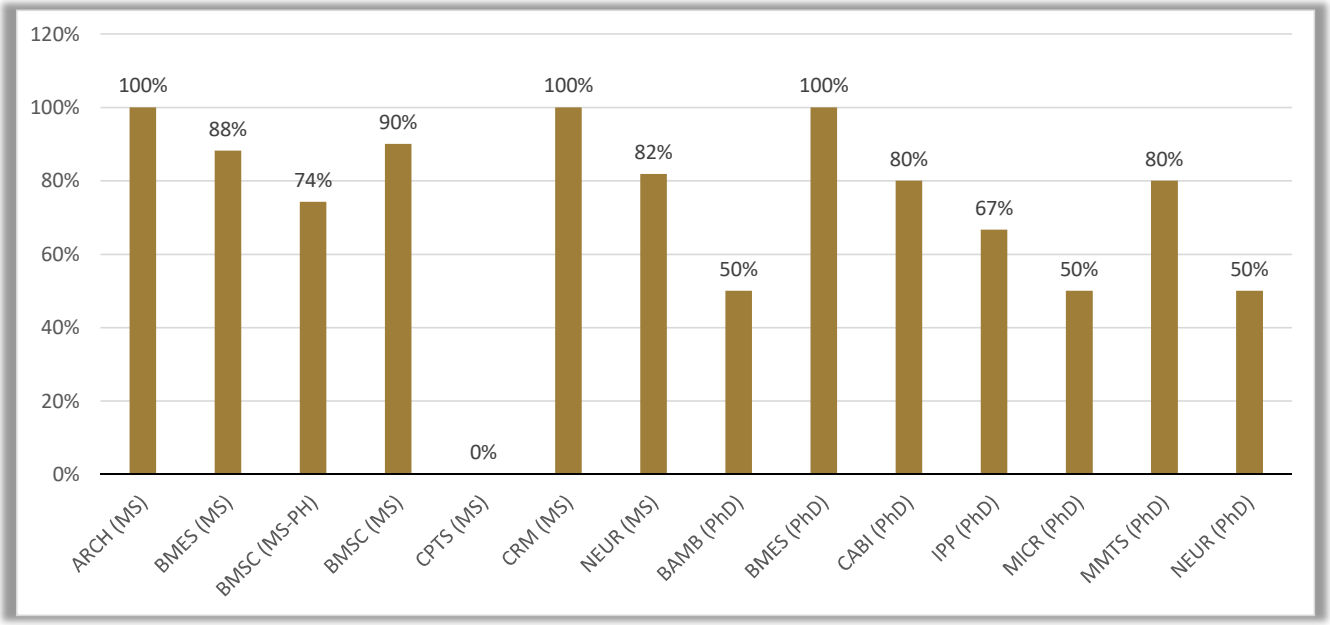

Chart 13E seeks to track the on-time degree completion rate in each Wake Forest biomedical degree program in. Expectations of on-time are set for each individual program or plan of study, in the case where a program has multiple plans of study with different expectations for completion timing. The majority of programs are exceeding our on-time degree completion rate goals. Individual programs that are not meeting our goals typically reflect small sample size.

Chart 13F. On-time Degree Completion Rate for All Wake Forest Biomedical Graduate Students by Degree v. Females and URMs
Academic Year 21-22

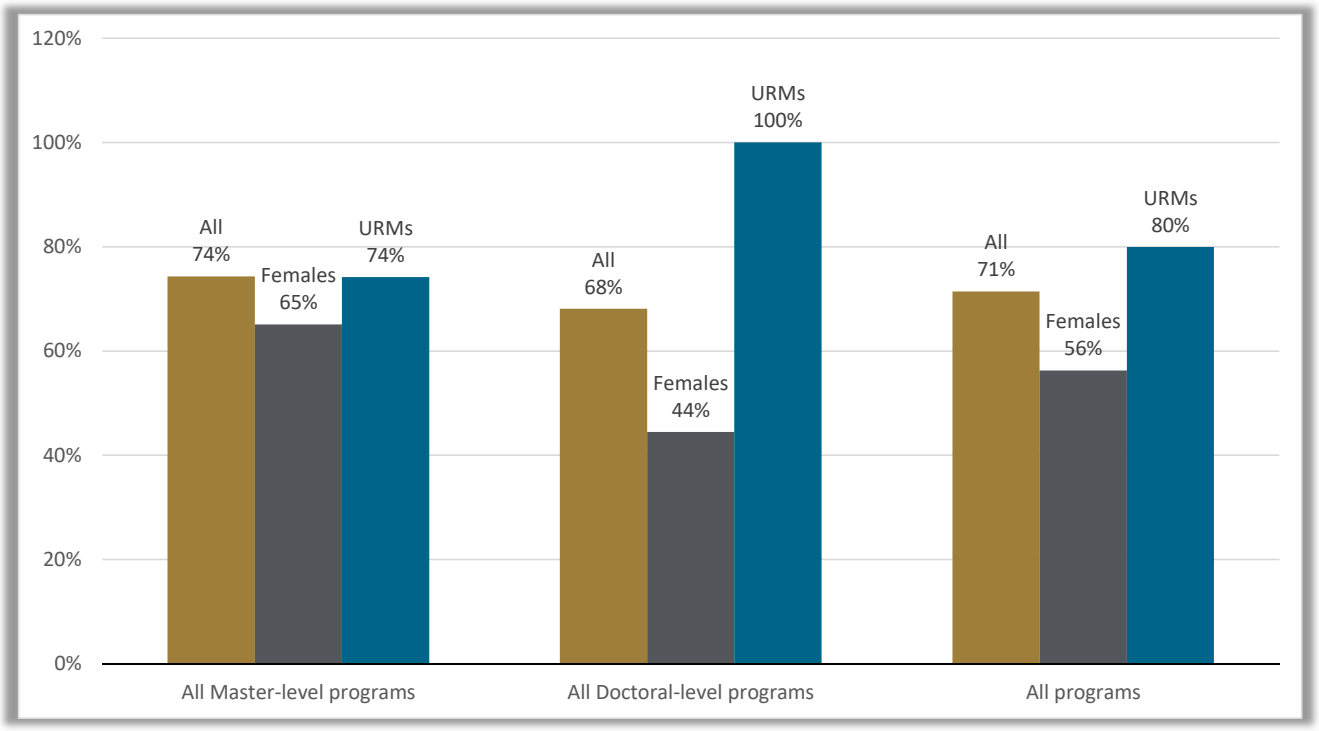

Chart 13F seeks to track the on-time degree completion rate (Master vs. Doctoral) for all biomedical students vs. our targeted sub-populations of females and URMs. In the case of females, on-time degree completion rate compares favorably with all biomedical graduate students. The on-time degree completion rate for URMs, however, exceeded the collective, even reaching 100% on-time for those in doctoral-level programs.

Table 14. Self-Reported Financial Investment During Degree Pursuit as Reported by Graduating Students
Academic Year 21-22

Table 14 shows self-reported data from graduated students related to their Financial Investment, i.e., data for those graduated Wake Forest biomedical students on their borrowing history or extracurricular work history, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that graduated students in the academic year, the total count of graduated students is found under the column labeled Population. The next sets of columns show the percentages of those that borrowed money or worked either full- or part-time while pursuing their degree, and the average amount borrowed (in thousands) for the cohort who graduated. Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Percentage that Borrowed Money			Percentage Employed (Full- or Part-time)			Average Borrowed (in 1000's)		
Biomedical Degree Program	***Population***	***All***	***Female***	***URM***	***All***	***Female***	***URM***	***All***	***Female***	***URM***
Addiction Research and Clinical Health (MS)	9	100%	100%	100%	100%	100%	100%	40		
Biomedical Engineering (MS)	17	50%	50%	100%	75%	50%	100%	19	21	21
Biomedical Sciences (MS - Pre-health Pathway)	35	100%	100%	100%	50%	50%	71%	44	44	48
Biomedical Sciences (MS - Research Pathway)	20	86%	75%	100%	14%	25%	0%	70	67	43
Clinical and Population Translational Science (MS)[1]	2	50%	50%	50%	50%	50%	50%	21	21	21
Clinical Research Management (MS)	10	70%	83%	100%	90%	83%	50%	24	23	
Comparative Medicine (MS)										
Genetic Counseling (MS)										
Health Disparities in Neuroscience-related Disorders (MS)										
Healthcare Leadership (MHL)										
Molecular Medicine and Translational Science (MS)										
Neuroscience (MS)	11	43%	50%		29%	50%		23	20	
Translational and Health System Science (MS)[1]	5	0%			100%			0		
Master Degree Totals/Percentages/Averages	109	62%	73%	92%	63%	58%	62%	35	38	38
Biochemistry and Molecular Biology (PhD)[2]	2	0%	0%		0%	0%		0	0	
Biomedical Engineering (PhD)	3	0%		0%	0%		0%	0		0
Cancer Biology (PhD)[2]	5	20%	0%	0%	0%	0%	0%	6	0	0
Integrative Physiology and Pharmacology (PhD)	3	0%	0%		0%	0%		0	0	
Microbiology and Immunology (PhD)[2]	2	0%	0%	0%	0%	0%	0%	0	0	0
Molecular and Cellular Biosciences (Admission Track)[2]										
Molecular Genetics and Genomics (PhD)[2]										
Molecular Medicine and Translational Science (PhD)[2]	5	25%	25%	25%	0%	0%	0%	5	5	5
Neuroscience (PhD)	6	17%	0%	50%	0%	0%	0%	3	0	10
Doctoral Degree Totals/Percentages/Averages	26	9%	4%	15%	0%	0%	0%	3	1	4
All Degrees Totals/Percentages/Averages	135	37%	41%	57%	34%	31%	34%	24	25	20
Joint Degree Program[3]										
PhD/MD (All PhD Degrees)										
PhD/MBA (All PhD Degrees)										
MS/MD (Translational and Health System Science)										
MS/BA-BS (Neuroscience)	1	0%			100%			0		
Joint Degree Totals/Percentages/Averages	1	0	0	0	40%	0%	#DIV/0!	0	0	#DIV/0!
Graduate Certificate[3]										
Clinical and Translational Investigation										
Learning Health System Science	1									
Graduate Certificate Totals/Percentages/Averages	1	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Footnotes:

1. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
2. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
3. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Chart 14A. Percentage of Graduated Students Who Borrowed Money by Wake Forest Biomedical Graduate Program
Academic Year 21-22

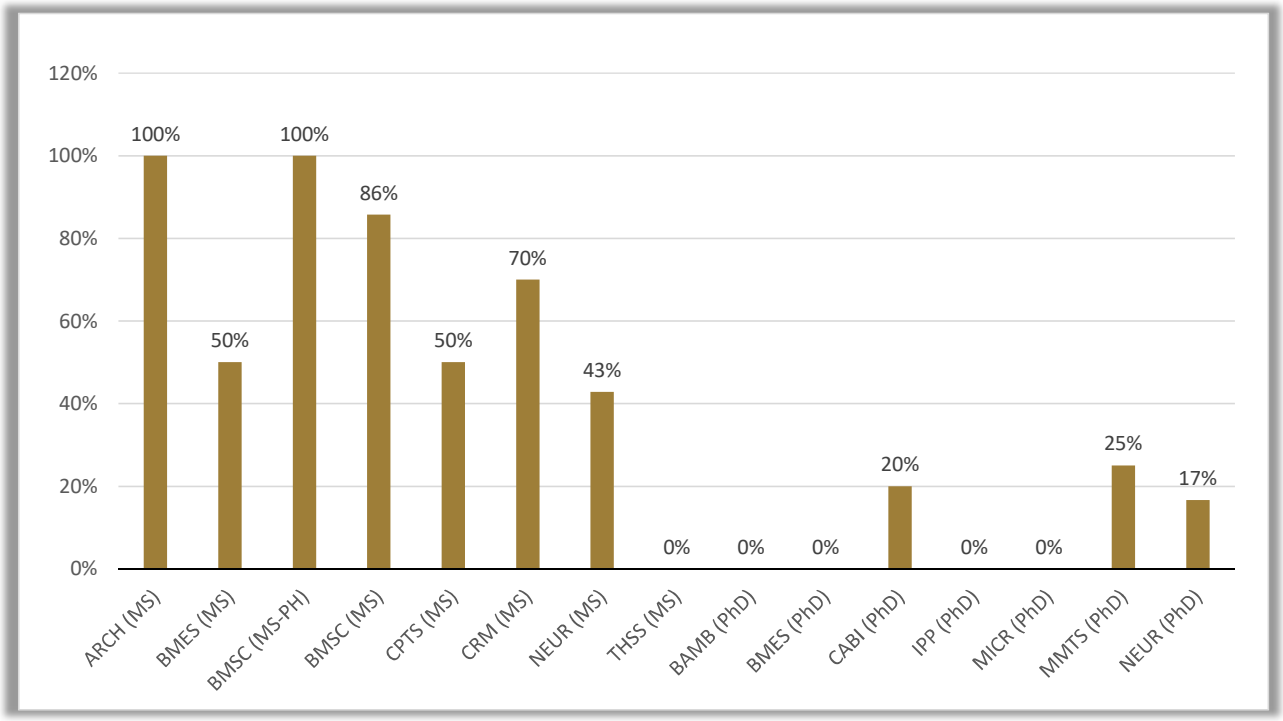

Chart 14A seeks to track the percentage of graduating students who borrowed money in support of their degree pursuit. As expected, master-level students tend to borrow in order to pursue their degree, while doctoral-level students do so more sparingly.

Chart 14B. Percentage of Graduated Wake Forest Biomedical Students Who Borrowed Money by Degree v. Females and URMs
Academic Year 21-22

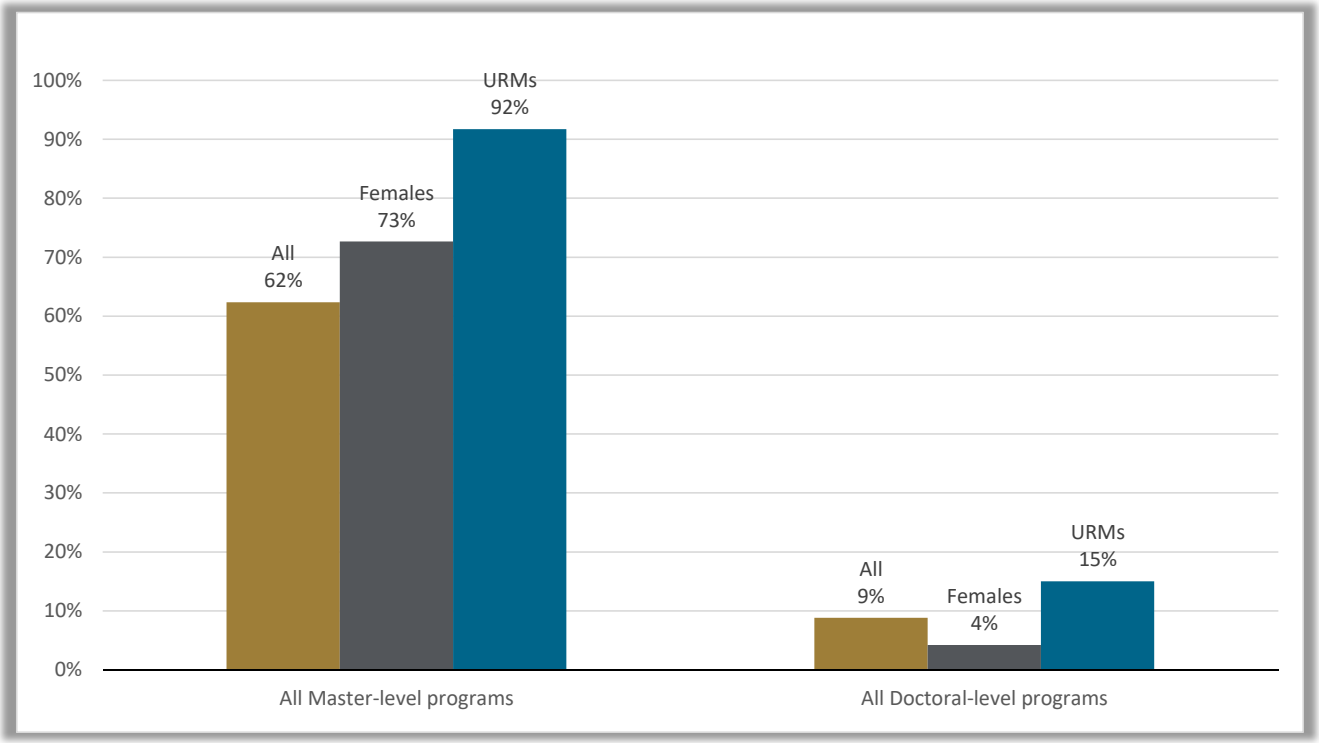

Chart 14B seeks to track the percentage of graduating students who borrowed money in support of their degree pursuit by degree-level. We find that URM students tend to borrow more frequently for both master-level and doctoral-level degrees.

Chart 14C. Average Money Borrowed (in Thousands) by Graduated Students in Wake Forest Biomedical Graduate Programs Academic Year 21-22

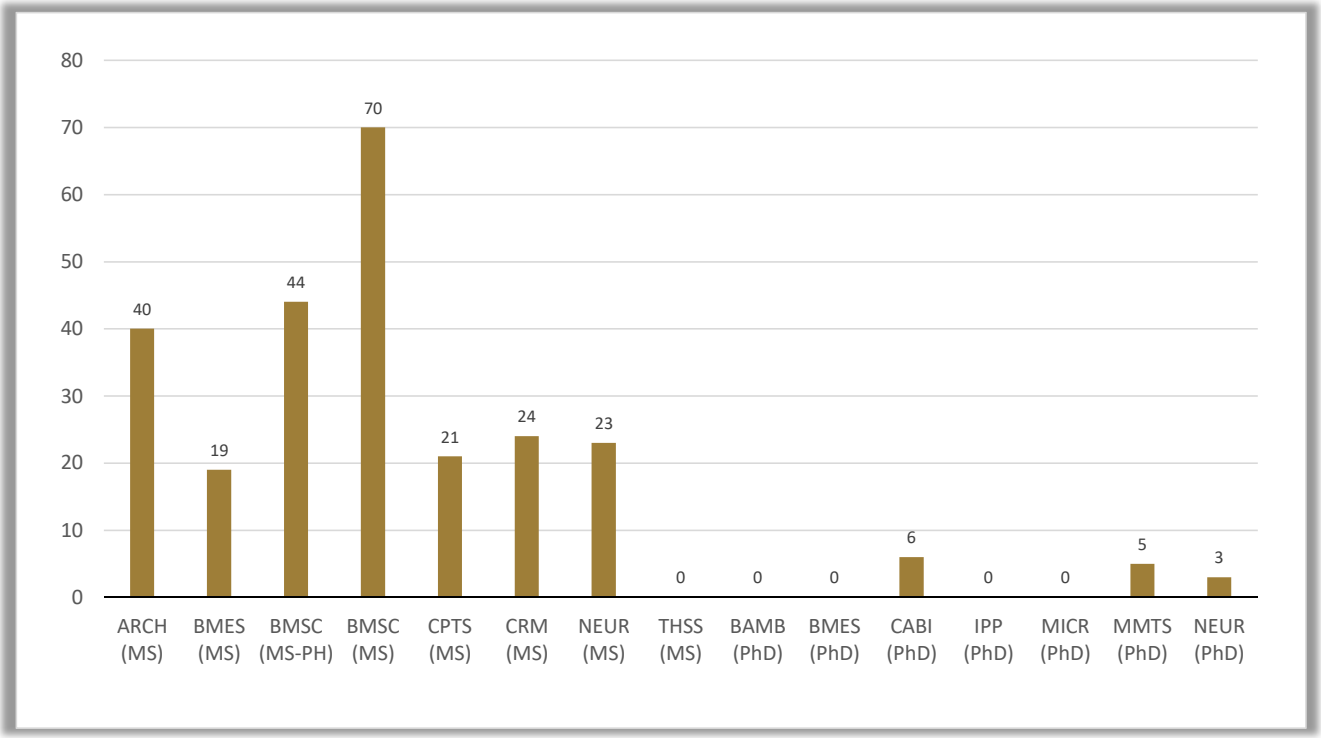

Chart 14C seeks to track the average amount borrowed by graduating students in support of their degree pursuit. As expected, students in master-level programs tend to borrow money at higher levels than those in that doctoral-level programs.

Chart 14D. Average Money Borrowed (in Thousands) by Graduated Wake Forest Biomedical Students by Degree v. Females and URMs Academic Year 21-22

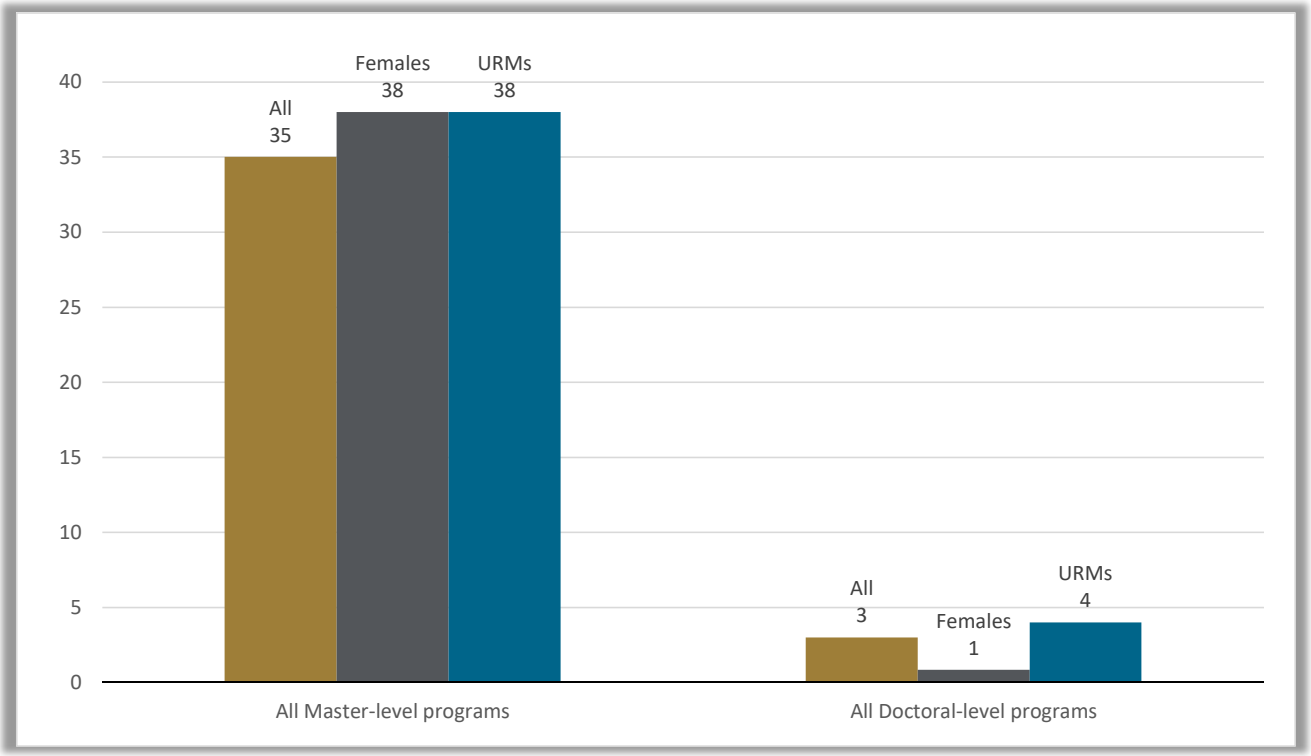

Chart 14D seeks to track the average amount borrowed by graduating students in support of their degree pursuit by degree-level. We find that average amount borrowed for master-level students is fairly consistent regardless of target population. Female and URM students tend to borrow more than their peers in doctoral programs.

Table 15. Self-Reported Outcomes From Graduating Students
Academic Year 21-22

Table 15 shows self-reported data from graduated students related to their Professional Outcomes, i.e., data for those graduated Wake Forest biomedical students on their readiness to start a career and their publication record, for the academic year. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that had graduating students in the academic year, the total count of graduating students is found under the column labeled Population. The next sets of columns show the average rating for three career readiness metrics, ranked on a 5-point scale where 1 = Completely Unprepared and 5 = Completely Prepared for the cohort who graduated. Dark gray bars indicate that there is no data associated with that program for the academic year. Notes regarding any footnote shown are found below the table.

		Readiness to Start a Career in the Chosen Field			Application of Training to New Environments			Readiness to Manage Ethical and Moral Challenges		
Biomedical Degree Program	***Population***	***All***	***Female***	***URM***	***All***	***Female***	***URM***	***All***	***Female***	***URM***
Addiction Research and Clinical Health (MS)	9	4.50	4.00	4.00	4.50	4.00	4.00	4.50	4.00	4.00
Biomedical Engineering (MS)	17	4.17	4.00	4.00	4.50	4.50	4.00	4.50	4.50	4.00
Biomedical Sciences (MS - Pre-health Pathway)	35	4.10	4.10	4.14	4.40	4.40	4.29	4.60	4.60	4.57
Biomedical Sciences (MS - Research Pathway)	20	3.79	3.63	3.67	4.21	4.25	4.00	4.36	4.25	4.33
Clinical and Population Translational Science (MS)[1]	2	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Clinical Research Management (MS)	10	4.60	4.33	3.00	4.90	4.83	4.50	5.00	5.00	5.00
Comparative Medicine (MS)										
Genetic Counseling (MS)										
Health Disparities in Neuroscience-related Disorders (MS)										
Healthcare Leadership (MHL)										
Molecular Medicine and Translational Science (MS)										
Neuroscience (MS)	11	3.71	4.50		4.43	4.50		4.43	4.50	
Translational and Health System Science (MS)[1]	5	5.00						5.00		
Master Degree Totals/Averages	109	4.14	4.09	4.00	4.49	4.49	4.31	4.59	4.57	4.56
Biochemistry and Molecular Biology (PhD)[2]	2	4.00	4.00		4.00	4.00		3.50	3.50	
Biomedical Engineering (PhD)	3	3.67		5.00	4.33		5.00	4.67		5.00
Cancer Biology (PhD)[2]	5	4.00	4.00	4.00	4.20	4.33	3.00	4.60	4.00	4.00
Integrative Physiology and Pharmacology (PhD)	3	4.00	3.00		4.33	4.00		4.00	3.00	
Microbiology and Immunology (PhD)[2]	2	3.50	3.50	3.50	4.50	4.50	4.50	4.50	4.50	4.50
Molecular and Cellular Biosciences (Admission Track)[2]										
Molecular Genetics and Genomics (PhD)[2]										
Molecular Medicine and Translational Science (PhD)[2]	5	3.75	3.75	3.75	4.25	4.25	4.25	4.50	4.50	4.50
Neuroscience (PhD)	6	4.67	4.33	4.50	4.83	4.67	4.50	4.83	4.67	5.00
Doctoral Degree Totals/Averages	26	4.04	3.87	4.00	4.40	4.33	4.40	4.48	4.40	4.60
All Degrees Totals/Averages	**135**	**4.11**	**4.02**	**4.00**	**4.46**	**4.44**	**4.35**	**4.55**	**4.52**	**4.58**
Joint Degree Program[3]										
PhD/MD (All PhD Degrees)										
PhD/MBA (All PhD Degrees)										
MS/MD (Translational and Health System Science)										
MS/BA-BS (Neuroscience)	1	4.00			4.00			4.00		
Joint Degree Totals/Averages	1	4.00	0	0	4.00	#DIV/0!	#DIV/0!	4.00	#DIV/0!	#DIV/0!
Graduate Certificate[3]										
Clinical and Translational Investigation										
Learning Health System Science	1									
Graduate Certificate Totals/Averages	1	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Footnotes:

1. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
2. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
3. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.

Chart 15A. Self-Reported Career Outcomes for All Graduated Master-level Wake Forest Biomedical Students
Academic Year 21-22

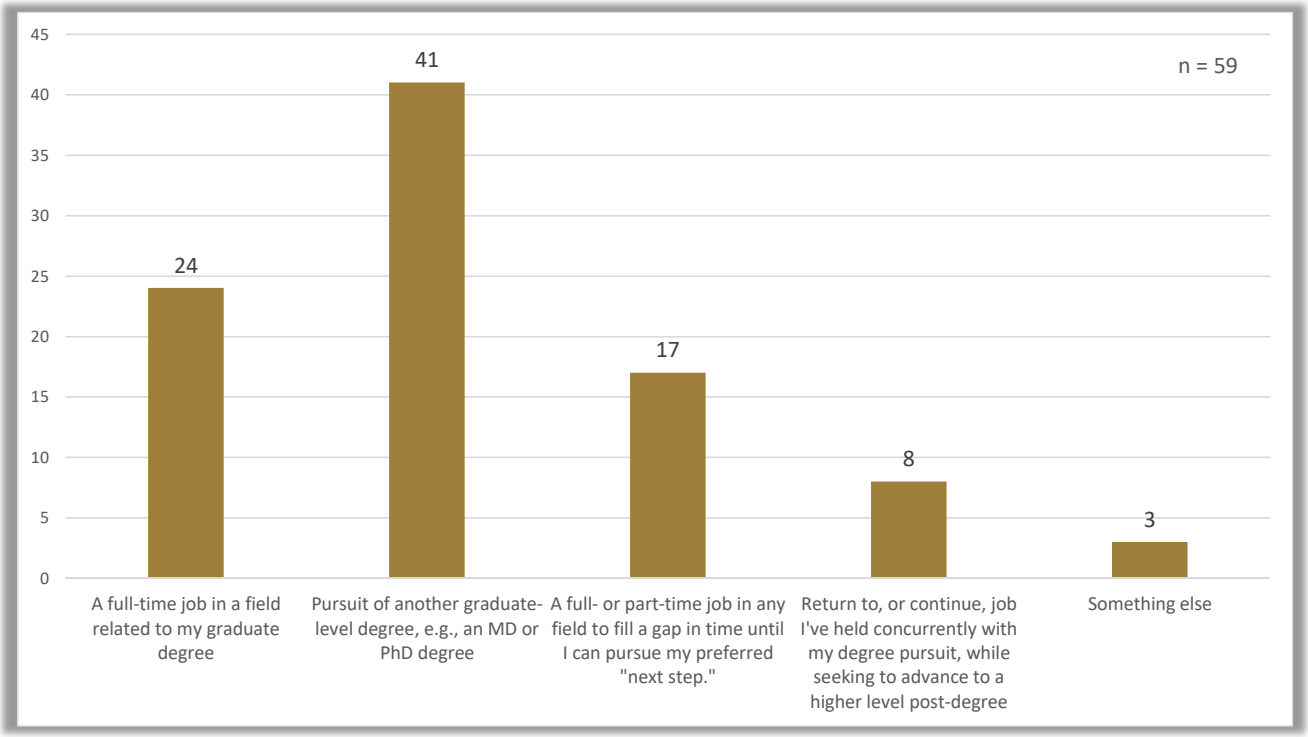

Chart 15A seeks to track the self-reported post-degree outcome, or planned next step, for all master-level graduates. Some reported career outcomes may reflect a plan to apply for a seat in another professional degree program or position with a company; this data should serve as a confirmation of the graduating student's desired outcome only. ***Graduates may select multiple responses to this question item.*** Note: Some Graduated Master-level students failed to respond to the exit survey at the time of the Annual Report.

Chart 15B. Self-Reported Career Outcomes for All Graduated Master-level Wake Forest Biomedical Students Pursuing or Securing Employment Immediately Post Degree
Academic Year 21-22

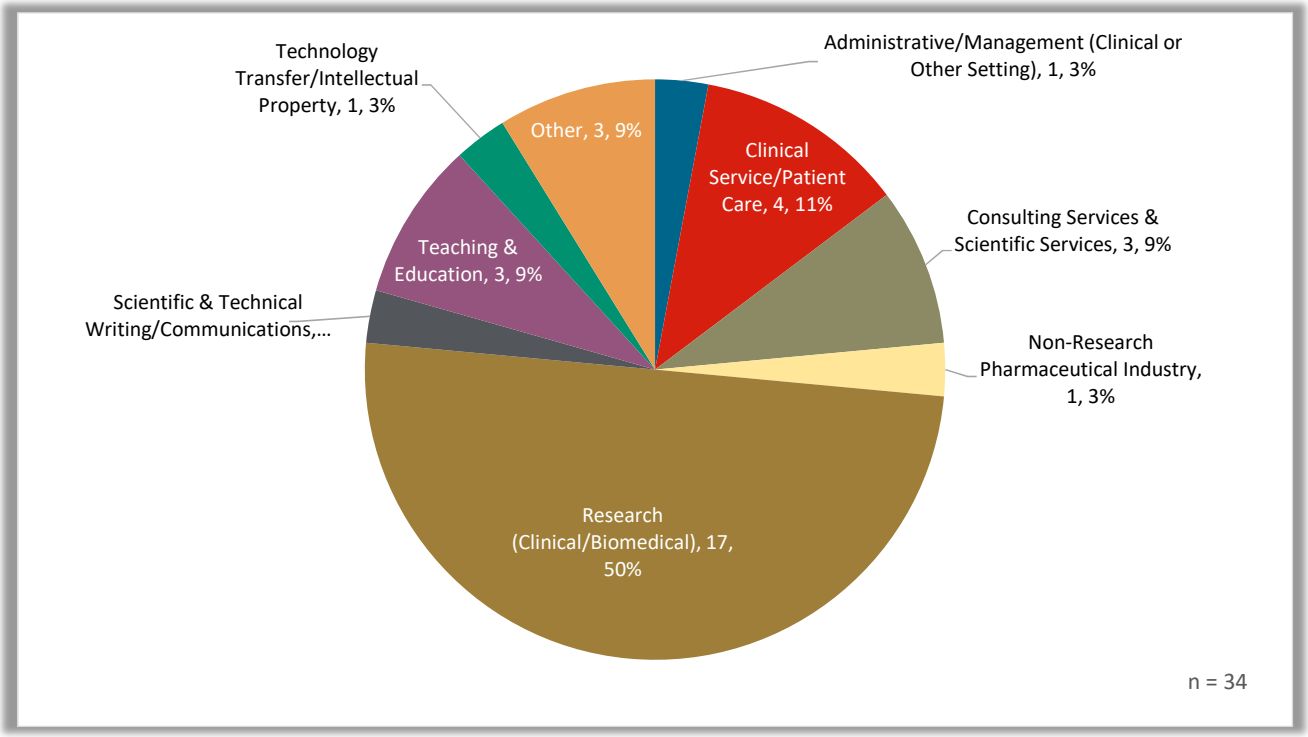

Chart 15B seeks to track the self-reported post-degree outcome, or planned next step, for all master-level graduates who are pursuing or have secured employment immediately post-degree, in terms of employment function. This data should serve as a confirmation of the graduating student's desired outcome only. Note: Some Graduated Master-level students failed to respond to the exit survey at the time of the Annual Report.

Chart 15C. Self-Reported Career Outcomes for All Graduated Master-level Wake Forest Biomedical Students Pursuing or Admitted Into Another Advanced Degree Program Post Degree
Academic Year 21-22

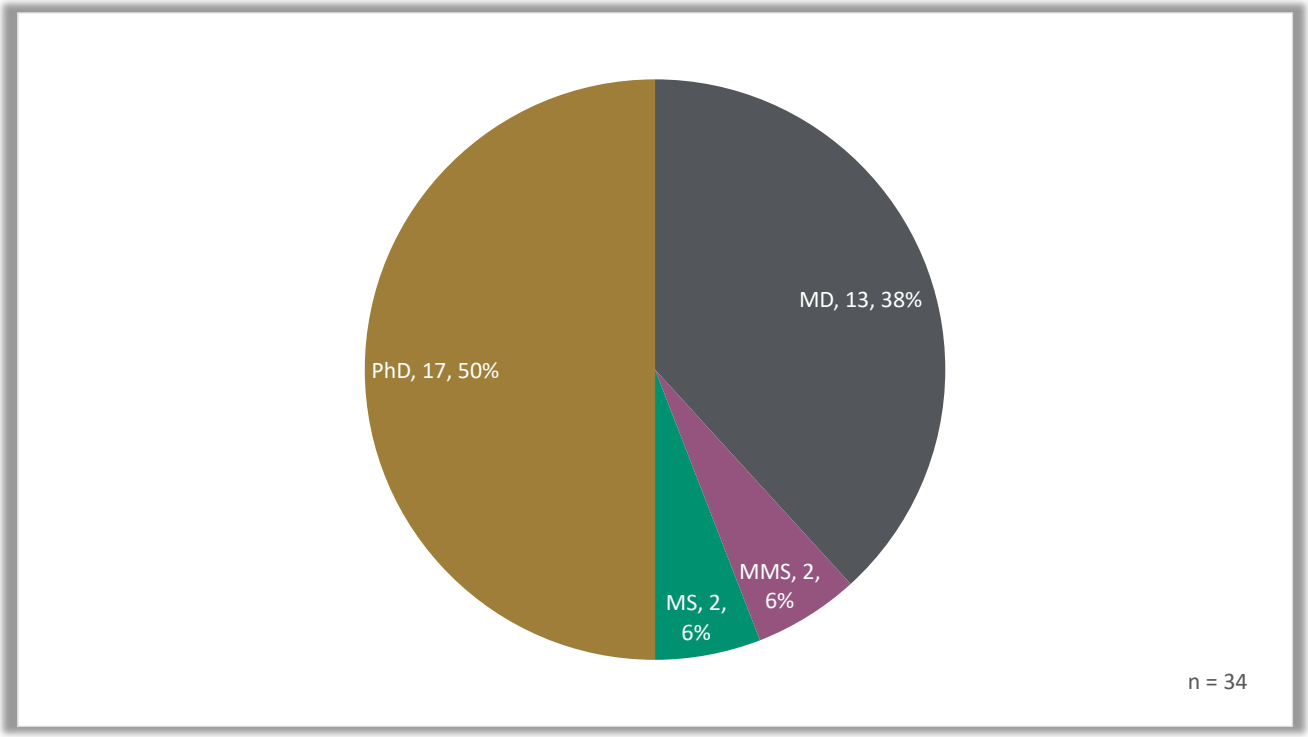

Chart 15C seeks to track the self-reported post-degree outcome, or planned next step, for all master-level graduates who are pursuing admission into another advanced degree program. This data should serve as a confirmation of the graduating student's desired outcome only. Note: Some Graduated Master-level students failed to respond to the exit survey at the time of the Annual Report.

Chart 15D. Self-Reported Career Outcomes for All Graduated Doctoral-level Wake Forest Biomedical Students
Academic Year 21-22

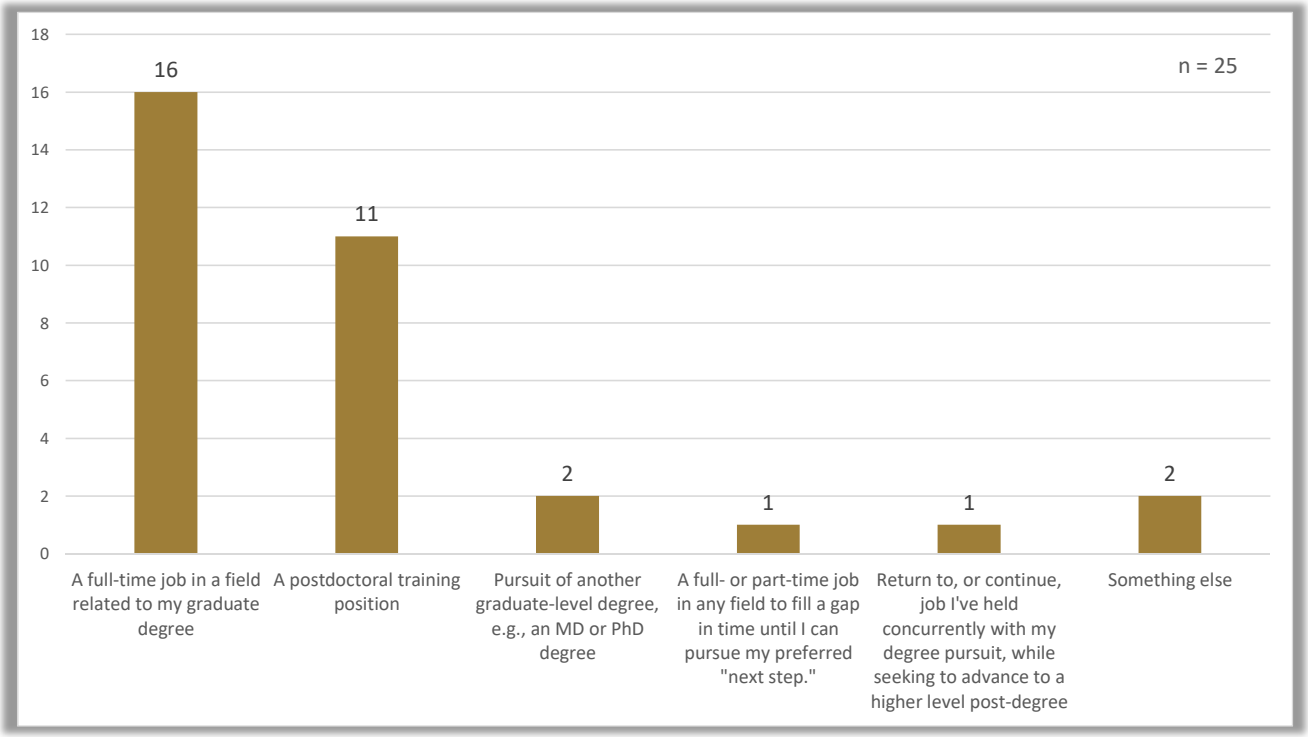

Chart 15D seeks to track the self-reported post-degree outcome, or planned next step, for all doctoral-level graduates. Some reported career outcomes may reflect a plan to continue training in a postdoctoral fellowship; this data should serve as a confirmation of the graduating student's desired outcome only. ***Graduates may select multiple responses to this question item.*** Note: Some Graduated Doctoral-level students failed to respond to the exit survey at the time of the Annual Report.

Chart 15E. Self-Reported Career Outcomes for All Graduated Doctoral-level Wake Forest Biomedical Students Pursuing or Securing Employment Immediately Post Degree
Academic Year 21-22

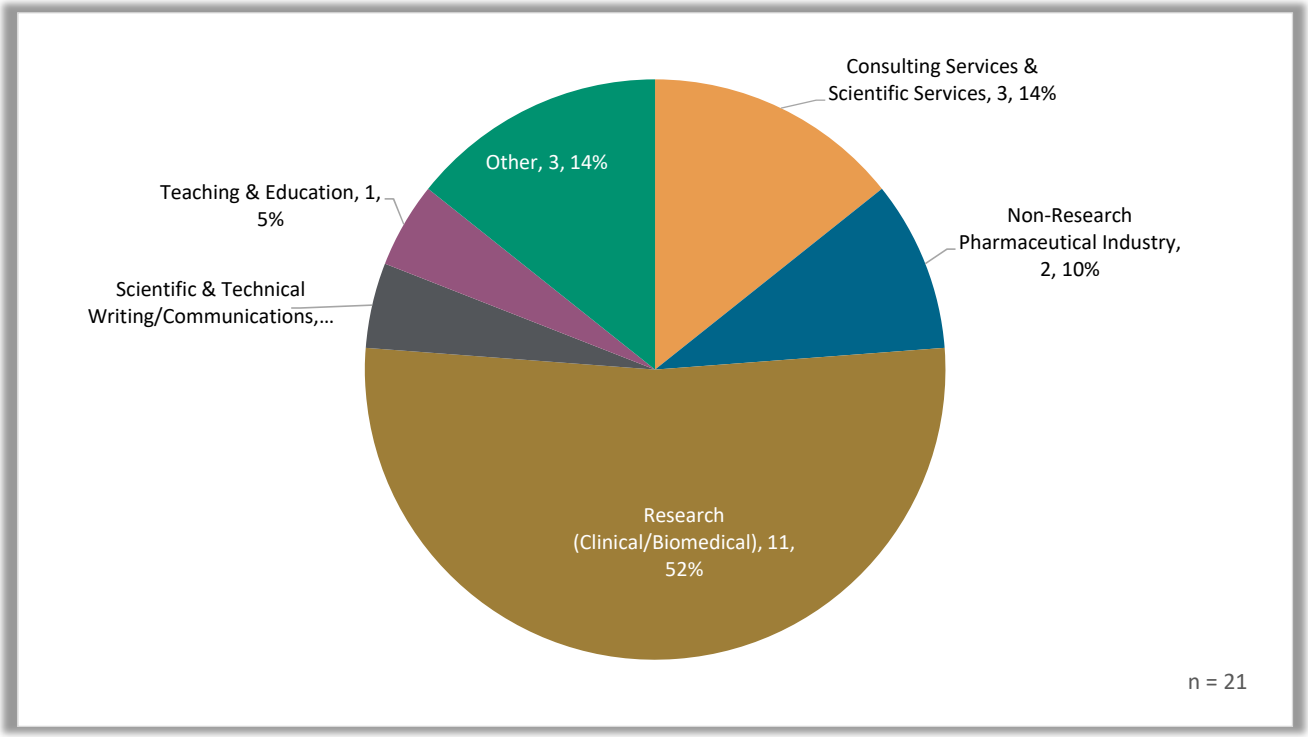

Chart 15E seeks to track the self-reported post-degree outcome, in terms of employment function, for all doctoral-level graduates. Some reported career outcomes may reflect a plan to continue training in a postdoctoral fellowship; this data should serve as a confirmation of the graduating student's desired outcome only. Note: Some Graduated Doctoral-level students failed to respond to the exit survey at the time of the Annual Report.

Table 16. Self-Reported Publication Outcomes for All Graduating Wake Forest Biomedical Students
Academic Year 21-22

Table 16 shows self-reported data from graduated students related to their Publication Productivity, i.e., data for those graduated Wake Forest biomedical students on their publication record while a student. Data is included for our targeted sub-populations, which include females and others that the NIH defines as underrepresented in science, technology, engineering, and math (URM in STEM) careers, including those who reported on their applications as:

- Coming from low socioeconomic backgrounds
- Being 1st-generation college graduates
- Having an Ethnicity of Black or African-American; Hispanic, Latino or of Spanish Origin; and/or Native American or Alaskan Native

This breakdown is tracked in many of the remaining tables in the Annual Report, to ensure that the our attention is consistently focused on these populations.

For those programs that had graduating students in the academic year, the total count of graduating students is found under the column labeled Population. The next sets of columns show the average number of peer-reviewed publications while a Wake Forest student within the program, the average number of non-peer reviewed publications, and the average number of peer-reviewed publications expected within the next 3 years. Dark gray bars indicate that there is no data associated with that program for the academic year. It should be noted that programs having no thesis or dissertation requirement are not expected to produce publications and will therefore have no data, or very limited data. Notes regarding any footnote shown are found below the table.

		Average Number of Peer-Reviewed Publications While a Student			Average Number of Non-Peer-Reviewed Publications While a Student			Average Number of Peer-Reviewed Publications Expected in Next 3 Years		
Biomedical Degree Program	***Population***	***All***	***Female***	***URM***	***All***	***Female***	***URM***	***All***	***Female***	***URM***
Addiction Research and Clinical Health (MS)										
Biomedical Engineering (MS)	17	0.83	0.50	0.00	2.17	2.67	0.00	1.42	1.33	0.00
Biomedical Sciences (MS - Pre-health Pathway)										
Biomedical Sciences (MS - Research Pathway)	20	0.64	0.75	0.67	0.29	0.38	0.00	1.29	2.00	0.67
Clinical and Population Translational Science (MS)[1]	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Clinical Research Management (MS)										
Comparative Medicine (MS)										
Genetic Counseling (MS)										
Health Disparities in Neuroscience-related Disorders (MS)										
Healthcare Leadership (MHL)										
Molecular Medicine and Translational Science (MS)										
Neuroscience (MS)	11	0.29	0.00		2.43	3.00		1.14	1.50	
Translational and Health System Science (MS)[1]										
Master Degree Totals/Averages	109	0.60	0.50	0.33	1.34	1.39	0.00	1.23	1.50	0.33
Biochemistry and Molecular Biology (PhD)[2]	2	0.50	0.50		7.50	7.50		2.00	2.00	
Biomedical Engineering (PhD)	3	5.00	6.00		12.00	16.00		4.33	3.00	
Cancer Biology (PhD)[2]	5	5.80	4.33	6.00	8.80	9.67	5.00	1.60	2.00	0.00
Integrative Physiology and Pharmacology (PhD)	3	3.67	3.00		5.67	0.00		5.00	6.00	
Microbiology and Immunology (PhD)[2]	2	3.50	3.50	3.50	10.00	10.00	10.00	1.50	1.50	1.50
Molecular and Cellular Biosciences (Admission Track)[2]										
Molecular Genetics and Genomics (PhD)[2]										
Molecular Medicine and Translational Science (PhD)[2]	5	5.00	5.00	5.00	7.00	7.00	7.00	2.75	2.75	2.75
Neuroscience (PhD)	6	3.00	3.33	2.00	11.83	10.00	10.00	5.17	2.67	4.00
Doctoral Degree Totals/Averages	26	4.04	3.60	4.30	9.24	8.13	8.90	3.40	2.53	2.50
All Degrees Totals/Averages	**135**	**2.03**	**1.91**	**2.81**	**4.63**	**4.45**	**5.56**	**2.13**	**1.97**	**1.69**
Joint Degree Program[3]										
PhD/MD (All PhD Degrees)										
PhD/MBA (All PhD Degrees)										
MS/MD (Translational and Health System Science)										
MS/BA-BS (Neuroscience)	1	0.00			1.00			0.00		
Joint Degree Totals/Averages	1	0	0	0	1.00	#DIV/0!	#DIV/0!	0.00	#DIV/0!	#DIV/0!
Graduate Certificate[3]										
Clinical and Translational Investigation										
Learning Health System Science	1									
Graduate Certificate Totals/Averages	1	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Footnotes:

1. Clinical and Population Translational Science (MS) was renamed as Translational and Health System Science (MS) in the 2019-2020 academic year. The listing for Clinical and Population Translational Science will continue to appear until the last student in the program graduates and it will then be removed from our Annual Report tables.
2. Reporting on the Molecular and Cellular Biosciences Track includes first year student data only. Data on students originally admitted to the Track is found in their chosen degree program once they join their degree program.
3. All joint degree program values are also reflected within their degree program tallies and are broken out to offer insight into the state of the joint degree programs specifically. Those pursuing graduate certificates are not reflected in the degree program tallies.