

Table SRD-8

Federal obligations for research, by detailed S&E field: Selected years, FYs 1990–2020

(Millions of current and constant 2012 dollars, percent share by field, and annual growth rates)

S&E field	1990	1995	2000	2005	2010	2015	2016	2017	2018	2019	2020	Average annual growth rate		
												1990–2000	2000–10	2010–20
	Millions of current dollars											Percent		
Total, all fields	21,622.4	28,434.4	38,470.6	53,738.2	63,728.0	63,825.4	67,104.6	69,871.3	74,587.6	81,117.8	85,304.8	5.9	5.2	3.0
Computer sciences and mathematics	840.7	1,579.1	2,205.6	2,983.4	3,411.8	3,862.7	4,222.8	3,894.2	4,206.9	4,330.0	5,912.4	10.1	4.5	5.7
Computer sciences	562.1	1,013.9	1,659.6	2,157.1	2,362.0	2,645.6	2,815.4	2,734.7	2,887.9	2,896.8	4,280.5	-	-	-
Mathematics	241.3	258.6	432.9	686.6	835.5	1,005.9	1,160.0	941.7	1,055.2	1,156.9	681.4	-	-	-
Other computer sciences and mathematics	37.3	306.6	113.1	139.7	214.4	211.2	247.3	217.8	263.8	276.3	950.4	-	-	-
Environmental sciences	2,174.1	2,854.4	3,328.8	3,502.6	3,338.9	4,413.7	4,450.4	4,469.6	4,567.6	5,074.7	5,039.5	4.4	0.0	4.2
Atmospheric sciences	773.4	1,135.6	1,104.3	1,185.1	953.8	1,567.9	1,597.0	1,651.3	796.3	824.2	908.1	-	-	-
Geological sciences	661.1	848.3	639.2	673.5	530.4	643.3	562.4	580.3	227.1	239.1	306.0	-	-	-
Oceanography	520.1	407.3	673.0	771.5	743.7	726.0	773.0	774.3	777.7	819.2	946.2	-	-	-
Other environmental sciences	219.5	463.3	912.2	872.5	1,111.0	1,476.5	1,518.0	1,463.8	2,766.4	3,192.1	2,879.2	-	-	-
Life sciences	8,829.8	11,811.0	17,964.7	28,127.8	33,909.1	30,625.1	32,045.4	34,089.6	36,994.4	38,303.7	42,524.8	7.4	6.6	2.3
Agricultural sciences	691.4	670.3	895.0	1,094.2	1,131.9	1,320.3	1,283.1	1,353.4	1,325.0	1,445.5	1,412.6	-	-	-
Biological sciences (excluding environmental biology)	4,144.6	4,925.4	10,740.0	13,351.6	17,213.9	14,839.7	15,922.6	16,555.7	17,828.5	18,910.4	20,165.4	-	-	-
Environmental biology	342.3	806.9	740.0	699.0	816.4	819.1	788.1	783.4	922.4	924.2	901.9	-	-	-
Medical sciences	3,382.4	4,972.2	4,463.8	10,862.1	11,677.0	11,086.8	11,358.6	12,648.7	13,564.5	13,774.8	16,182.2	-	-	-
Other life sciences	269.1	436.3	1,125.9	2,120.9	3,070.0	2,559.2	2,693.0	2,748.4	3,353.9	3,248.8	3,862.7	-	-	-
Physical sciences	3,808.7	4,278.3	4,788.0	5,493.7	5,870.8	6,510.3	6,705.6	6,581.5	7,881.4	9,816.1	8,419.9	2.3	2.1	3.7
Astronomy	597.2	764.5	880.3	884.9	559.9	1,230.2	1,246.7	1,292.4	887.3	1,583.4	871.3	-	-	-
Chemistry	761.7	863.5	1,225.6	1,197.5	1,310.6	967.7	998.9	969.2	1,121.2	1,125.5	1,143.8	-	-	-
Physics	2,254.9	2,451.2	2,405.4	3,041.3	3,470.1	3,040.2	3,731.9	3,675.9	3,541.1	3,446.0	3,577.1	-	-	-
Other physical sciences	195.0	199.2	276.7	370.0	530.2	1,272.2	728.1	643.9	2,331.7	3,661.3	2,827.6	-	-	-
Psychology	448.6	622.6	1,626.7	1,891.8	2,155.6	1,994.9	2,021.4	2,081.2	2,326.9	2,753.6	3,275.8	13.7	2.9	4.3
Biological aspects	130.6	58.8	8.2	2.3	13.6	19.1	19.8	10.4	19.9	17.5	13.5	-	-	-
Social aspects	177.5	156.3	56.0	46.6	74.5	58.5	56.0	56.4	48.4	52.7	41.8	-	-	-
Other psychological sciences	140.5	407.5	1,562.5	1,842.8	2,067.4	1,917.2	1,945.6	2,014.4	2,258.5	2,683.3	3,220.5	-	-	-
Social sciences	630.0	678.7	1,050.4	1,097.1	1,197.3	1,136.3	1,226.7	1,027.2	1,039.4	1,155.7	1,137.4	5.2	1.3	-0.5
Anthropology	14.4	21.7	15.9	18.0	24.7	29.9	31.5	32.1	34.7	34.9	19.3	-	-	-
Economics	197.2	206.5	249.5	215.9	274.0	336.8	370.9	294.1	282.4	294.9	202.7	-	-	-
Political science	13.1	22.3	22.6	32.7	14.2	16.0	14.6	17.6	10.8	14.2	12.5	-	-	-
Sociology	116.2	47.8	90.6	70.2	132.3	128.2	197.4	178.0	143.2	224.0	152.4	-	-	-
Other social sciences	289.1	380.3	671.8	760.4	752.0	625.3	612.2	505.4	568.2	587.6	750.5	-	-	-
Other sciences nec	663.7	901.8	1,160.2	2,088.9	2,763.2	3,298.8	3,460.8	4,520.6	3,812.4	4,404.8	5,772.9	5.7	9.1	7.6
Engineering	4,226.6	5,708.4	6,346.4	8,552.9	11,081.2	11,983.6	12,971.5	13,207.4	13,758.6	15,279.3	13,222.0	4.1	5.7	1.8

Table SRD-8

Federal obligations for research, by detailed S&E field: Selected years, FYs 1990–2020

(Millions of current and constant 2012 dollars, percent share by field, and annual growth rates)

S&E field	1990	1995	2000	2005	2010	2015	2016	2017	2018	2019	2020	Average annual growth rate		
												1990–2000	2000–10	2010–20
Aeronautical engineering	927.1	1,248.3	1,463.9	1,276.3	830.1	1,825.1	1,836.1	1,892.1	1,118.0	1,199.2	1,093.5	-	-	-
Astronautical engineering	580.8	546.5	515.0	494.1	389.9	660.6	650.7	651.4	795.8	829.7	915.9	-	-	-
Chemical engineering	241.9	246.1	196.5	283.8	509.7	374.6	373.0	302.3	692.3	454.1	788.2	-	-	-
Civil engineering	317.7	339.4	239.2	279.2	699.8	457.6	461.9	605.9	476.3	566.3	475.7	-	-	-
Electrical engineering	640.0	756.3	744.8	1,033.5	1,360.9	897.3	1,062.9	1,102.7	1,009.8	970.6	880.6	-	-	-
Mechanical engineering	268.3	412.5	289.3	323.7	363.6	323.6	374.2	449.8	498.2	630.1	522.8	-	-	-
Metallurgy and materials engineering	554.5	815.3	918.1	1,184.1	1,758.8	1,756.9	1,975.4	1,941.1	1,915.0	1,842.8	704.5	-	-	-
Other engineering	696.3	1,344.0	1,979.6	3,678.3	5,168.4	5,688.0	6,237.3	6,262.1	7,253.1	8,786.5	7,840.8	-	-	-
	Millions of constant 2012 dollars											Percent		
Total, all fields	34,104.7	39,558.2	49,321.3	61,654.7	66,231.6	60,809.3	63,372.0	64,833.7	67,647.0	72,143.2	74,927.4	3.8	3.0	1.2
Computer sciences and mathematics	1,326.1	2,196.9	2,827.7	3,422.9	3,545.8	3,680.2	3,987.9	3,613.4	3,815.4	3,850.9	5,193.1	7.9	2.3	3.9
Computer sciences	886.6	1,410.5	2,127.7	2,474.9	2,454.8	2,520.6	2,658.8	2,537.5	2,619.2	2,576.3	3,759.8	-	-	-
Mathematics	380.7	359.8	555.0	787.7	868.3	958.4	1,095.5	873.8	957.0	1,028.9	598.5	-	-	-
Other computer sciences and mathematics	58.8	426.5	145.0	160.3	222.8	201.2	233.5	202.1	239.3	245.7	834.8	-	-	-
Environmental sciences	3,429.2	3,971.1	4,267.7	4,018.6	3,470.1	4,205.1	4,202.9	4,147.4	4,142.6	4,513.3	4,426.4	2.2	-2.0	2.5
Atmospheric sciences	1,219.9	1,579.9	1,415.8	1,359.7	991.3	1,493.8	1,508.2	1,532.2	722.2	733.0	797.6	-	-	-
Geological sciences	1,042.8	1,180.2	819.5	772.7	551.2	612.9	531.1	538.5	206.0	212.6	268.8	-	-	-
Oceanography	820.4	566.6	862.8	885.2	772.9	691.7	730.0	718.5	705.3	728.6	831.1	-	-	-
Other environmental sciences	346.1	644.5	1,169.5	1,001.0	1,154.6	1,406.7	1,433.6	1,358.3	2,509.0	2,838.9	2,528.9	-	-	-
Life sciences	13,927.2	16,431.6	23,031.7	32,271.5	35,241.2	29,177.9	30,262.9	31,631.8	33,552.0	34,065.9	37,351.6	5.2	4.3	0.6
Agricultural sciences	1,090.6	932.5	1,147.4	1,255.4	1,176.4	1,257.9	1,211.7	1,255.8	1,201.7	1,285.6	1,240.8	-	-	-
Biological sciences (excluding environmental biology)	6,537.3	6,852.3	13,769.2	15,318.5	17,890.1	14,138.4	15,036.9	15,362.1	16,169.5	16,818.2	17,712.3	-	-	-
Environmental biology	540.0	1,122.6	948.7	802.0	848.5	780.4	744.3	726.9	836.6	821.9	792.2	-	-	-
Medical sciences	5,334.9	6,917.4	5,722.8	12,462.3	12,135.7	10,562.9	10,726.8	11,736.8	12,302.3	12,250.8	14,213.6	-	-	-
Other life sciences	424.5	607.0	1,443.5	2,433.3	3,190.6	2,438.3	2,543.2	2,550.2	3,041.8	2,889.4	3,392.8	-	-	-
Physical sciences	6,007.4	5,952.0	6,138.5	6,303.0	6,101.4	6,202.6	6,332.6	6,107.0	7,148.0	8,730.1	7,395.6	0.2	-0.1	1.9
Astronomy	941.9	1,063.6	1,128.6	1,015.3	581.9	1,172.1	1,177.4	1,199.2	804.7	1,408.2	765.3	-	-	-
Chemistry	1,201.4	1,201.3	1,571.3	1,373.9	1,362.1	922.0	943.3	899.3	1,016.9	1,001.0	1,004.7	-	-	-
Physics	3,556.7	3,410.1	3,083.8	3,489.3	3,606.4	2,896.5	3,524.3	3,410.9	3,211.6	3,064.7	3,141.9	-	-	-
Other physical sciences	307.5	277.1	354.7	424.5	551.0	1,212.1	687.6	597.5	2,114.7	3,256.2	2,483.6	-	-	-
Psychology	707.6	866.2	2,085.5	2,170.5	2,240.3	1,900.6	1,909.0	1,931.1	2,110.4	2,449.0	2,877.3	11.4	0.7	2.5
Biological aspects	206.1	81.8	10.5	2.6	14.1	18.2	18.7	9.7	18.0	15.6	11.9	-	-	-
Social aspects	279.9	217.4	71.8	53.5	77.4	55.7	52.9	52.3	43.9	46.9	36.7	-	-	-
Other psychological sciences	221.6	566.9	2,003.2	2,114.3	2,148.6	1,826.6	1,837.4	1,869.2	2,048.3	2,386.4	2,828.7	-	-	-

Table SRD-8

Federal obligations for research, by detailed S&E field: Selected years, FYs 1990–2020

(Millions of current and constant 2012 dollars, percent share by field, and annual growth rates)

S&E field	1990	1995	2000	2005	2010	2015	2016	2017	2018	2019	2020	Average annual growth rate		
												1990–2000	2000–10	2010–20
Social sciences	993.7	944.2	1,346.7	1,258.7	1,244.3	1,082.6	1,158.5	953.1	942.7	1,027.8	999.0	3.1	-0.8	-2.2
Anthropology	22.7	30.2	20.4	20.7	25.7	28.5	29.7	29.8	31.5	31.0	17.0	-	-	-
Economics	311.0	287.3	319.9	247.7	284.8	320.9	350.3	272.9	256.1	262.3	178.0	-	-	-
Political science	20.7	31.0	29.0	37.5	14.8	15.2	13.8	16.3	9.8	12.6	11.0	-	-	-
Sociology	183.2	66.5	116.2	80.5	137.5	122.1	186.4	165.2	129.9	199.2	133.9	-	-	-
Other social sciences	456.1	529.1	861.3	872.4	781.5	595.8	578.1	469.0	515.3	522.6	659.2	-	-	-
Other sciences nec	1,046.9	1,254.6	1,487.4	2,396.6	2,871.8	3,142.9	3,268.3	4,194.7	3,457.6	3,917.5	5,070.6	3.6	6.8	5.9
Engineering	6,666.6	7,941.6	8,136.4	9,812.9	11,516.5	11,417.3	12,250.0	12,255.2	12,478.3	13,588.8	11,613.5	2.0	3.5	0.1
Aeronautical engineering	1,462.3	1,736.6	1,876.8	1,464.3	862.7	1,738.9	1,734.0	1,755.7	1,014.0	1,066.5	960.5	-	-	-
Astronautical engineering	916.1	760.3	660.3	566.9	405.2	629.4	614.5	604.4	721.7	737.9	804.5	-	-	-
Chemical engineering	381.5	342.4	251.9	325.6	529.7	356.9	352.3	280.5	627.9	403.9	692.3	-	-	-
Civil engineering	501.1	472.2	306.7	320.3	727.3	436.0	436.2	562.2	432.0	503.6	417.8	-	-	-
Electrical engineering	1,009.5	1,052.2	954.9	1,185.8	1,414.4	854.9	1,003.8	1,023.2	915.8	863.2	773.5	-	-	-
Mechanical engineering	423.2	573.9	370.9	371.4	377.9	308.3	353.4	417.4	451.8	560.4	459.2	-	-	-
Metallurgy and materials engineering	874.6	1,134.3	1,177.1	1,358.5	1,827.9	1,673.9	1,865.5	1,801.2	1,736.8	1,638.9	618.8	-	-	-
Other engineering	1,098.3	1,869.8	2,537.9	4,220.2	5,371.4	5,419.2	5,890.4	5,810.6	6,578.2	7,814.4	6,887.0	-	-	-
	Share by field (%)											Percent		
Total, all fields	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	-	-
Computer sciences and mathematics	3.9	5.6	5.7	5.6	5.4	6.1	6.3	5.6	5.6	5.3	6.9	-	-	-
Computer sciences	2.6	3.6	4.3	4.0	3.7	4.1	4.2	3.9	3.9	3.6	5.0	-	-	-
Mathematics	1.1	0.9	1.1	1.3	1.3	1.6	1.7	1.3	1.4	1.4	0.8	-	-	-
Other computer sciences and mathematics	0.2	1.1	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.3	1.1	-	-	-
Environmental sciences	10.1	10.0	8.7	6.5	5.2	6.9	6.6	6.4	6.1	6.3	5.9	-	-	-
Atmospheric sciences	3.6	4.0	2.9	2.2	1.5	2.5	2.4	2.4	1.1	1.0	1.1	-	-	-
Geological sciences	3.1	3.0	1.7	1.3	0.8	1.0	0.8	0.8	0.3	0.3	0.4	-	-	-
Oceanography	2.4	1.4	1.7	1.4	1.2	1.1	1.2	1.1	1.0	1.0	1.1	-	-	-
Other environmental sciences	1.0	1.6	2.4	1.6	1.7	2.3	2.3	2.1	3.7	3.9	3.4	-	-	-
Life sciences	40.8	41.5	46.7	52.3	53.2	48.0	47.8	48.8	49.6	47.2	49.9	-	-	-
Agricultural sciences	3.2	2.4	2.3	2.0	1.8	2.1	1.9	1.9	1.8	1.8	1.7	-	-	-
Biological sciences (excluding environmental biology)	19.2	17.3	27.9	24.8	27.0	23.3	23.7	23.7	23.9	23.3	23.6	-	-	-
Environmental biology	1.6	2.8	1.9	1.3	1.3	1.3	1.2	1.1	1.2	1.1	1.1	-	-	-
Medical sciences	15.6	17.5	11.6	20.2	18.3	17.4	16.9	18.1	18.2	17.0	19.0	-	-	-
Other life sciences	1.2	1.5	2.9	3.9	4.8	4.0	4.0	3.9	4.5	4.0	4.5	-	-	-
Physical sciences	17.6	15.0	12.4	10.2	9.2	10.2	10.0	9.4	10.6	12.1	9.9	-	-	-

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Federal obligations for research, by detailed S&E field: Selected years, FYs 1990–2020

(Millions of current and constant 2012 dollars, percent share by field, and annual growth rates)

S&E field	1990	1995	2000	2005	2010	2015	2016	2017	2018	2019	2020	Average annual growth rate		
												1990–2000	2000–10	2010–20
Astronomy	2.8	2.7	2.3	1.6	0.9	1.9	1.9	1.8	1.2	2.0	1.0	-	-	-
Chemistry	3.5	3.0	3.2	2.2	2.1	1.5	1.5	1.4	1.5	1.4	1.3	-	-	-
Physics	10.4	8.6	6.3	5.7	5.4	4.8	5.6	5.3	4.7	4.2	4.2	-	-	-
Other physical sciences	0.9	0.7	0.7	0.7	0.8	2.0	1.1	0.9	3.1	4.5	3.3	-	-	-
Psychology	2.1	2.2	4.2	3.5	3.4	3.1	3.0	3.0	3.1	3.4	3.8	-	-	-
Biological aspects	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-
Social aspects	0.8	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-	-	-
Other psychological sciences	0.6	1.4	4.1	3.4	3.2	3.0	2.9	2.9	3.0	3.3	3.8	-	-	-
Social sciences	2.9	2.4	2.7	2.0	1.9	1.8	1.8	1.5	1.4	1.4	1.3	-	-	-
Anthropology	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-
Economics	0.9	0.7	0.6	0.4	0.4	0.5	0.6	0.4	0.4	0.4	0.2	-	-	-
Political science	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-
Sociology	0.5	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.2	0.3	0.2	-	-	-
Other social sciences	1.3	1.3	1.7	1.4	1.2	1.0	0.9	0.7	0.8	0.7	0.9	-	-	-
Other sciences nec	3.1	3.2	3.0	3.9	4.3	5.2	5.2	6.5	5.1	5.4	6.8	-	-	-
Engineering	19.5	20.1	16.5	15.9	17.4	18.8	19.3	18.9	18.4	18.8	15.5	-	-	-
Aeronautical engineering	4.3	4.4	3.8	2.4	1.3	2.9	2.7	2.7	1.5	1.5	1.3	-	-	-
Astronautical engineering	2.7	1.9	1.3	0.9	0.6	1.0	1.0	0.9	1.1	1.0	1.1	-	-	-
Chemical engineering	1.1	0.9	0.5	0.5	0.8	0.6	0.6	0.4	0.9	0.6	0.9	-	-	-
Civil engineering	1.5	1.2	0.6	0.5	1.1	0.7	0.7	0.9	0.6	0.7	0.6	-	-	-
Electrical engineering	3.0	2.7	1.9	1.9	2.1	1.4	1.6	1.6	1.4	1.2	1.0	-	-	-
Mechanical engineering	1.2	1.5	0.8	0.6	0.6	0.5	0.6	0.6	0.7	0.8	0.6	-	-	-
Metallurgy and materials engineering	2.6	2.9	2.4	2.2	2.8	2.8	2.9	2.8	2.6	2.3	0.8	-	-	-
Other engineering	3.2	4.7	5.1	6.8	8.1	8.9	9.3	9.0	9.7	10.8	9.2	-	-	-

nec = not elsewhere classified.

Note(s):

Because of rounding, detail may not add to total.

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development, Volume 70, FYs 2020–21.

Science and Engineering Indicators