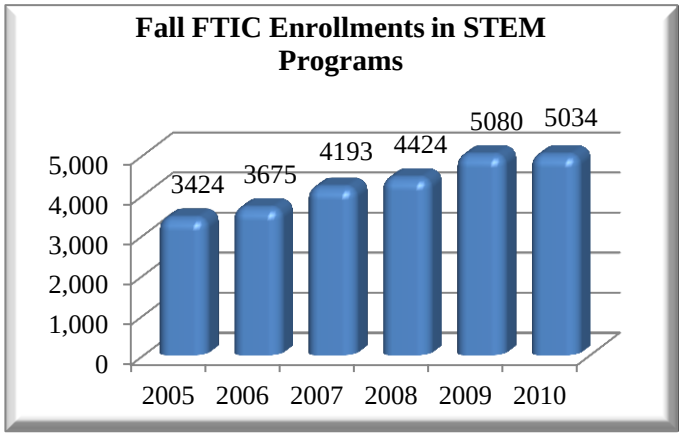
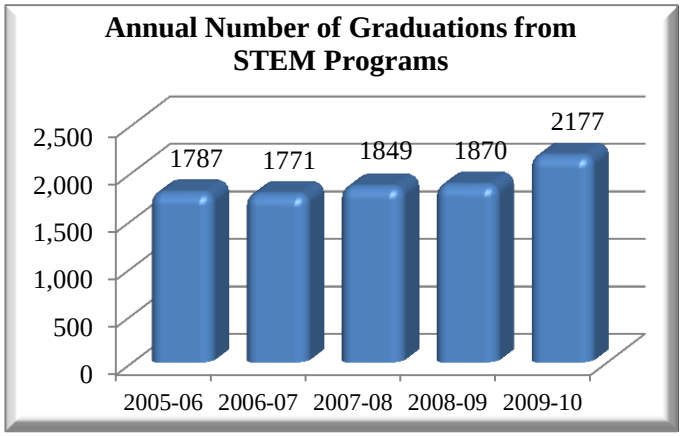
STUDENT SUCCESS SNAPSHOT

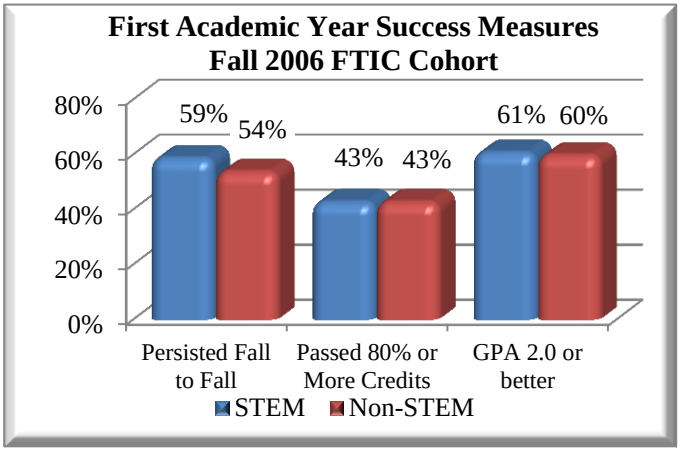
Virginia's Community Colleges

Issue #19, June 2011

"Preparing for the Top Jobs of the 21st Century" - Tackling the STEM Challenge







Science, technology, engineering, and mathematics (STEM) fields have become increasingly central to U.S. economic competitiveness and growth. Our nation's economic future depends upon improving the pipeline into the STEM fields. Community colleges have an important role in preparing technicians and prospective bachelor degree candidates in these fields. A STEM degree initiative is also a priority in Virginia's *Preparing for the Top Jobs of the 21st Century: The Virginia Higher Education Opportunity Act of 2011*. This snapshot provides baseline data on enrollment and graduation in STEM majors as VCCS colleges move forward to achieve greater student success as called for in *Achieve 2015*.

Data Notes

- FTIC refers to first-time-in-college students.
- STEM programs were identified based on SCHEV guidelines using national classification of instructional programs (CIP) codes.
- Transfers are students enrolling in a four-year institution for the first time in fall or spring within two calendar years after exiting VCCS with 12 or more college credits.

Highlights

- Fall FTIC enrollments in STEM programs increased 47% over the last six years.
- For the fall 2006 FTIC cohort, STEM students showed slightly higher fall-to-fall persistence rates than non-STEM students and earned comparable GPAs.
- Over the past five years, the number of students graduating annually in STEM programs increased 22% while the number of transfers increased 41%.
- By fall of year two, 59% of students in STEM programs have persisted, yet only 12% of students who originally enrolled in a STEM program eventually graduated from a STEM program.

Reflections

Colleges are encouraged to build on the overall increases in STEM enrollment, transfer, and graduation numbers. In order to promote innovation and to prepare an adequate supply of qualified workers for employment in STEM fields, colleges should develop coordinated efforts and long-term strategies for attracting and retaining students in STEM programs. Colleges should consider developing additional programs in STEM fields to meet local industry needs and state goals. Such strategies can lead to more students who graduate or transfer in STEM fields and ultimately pursue STEM careers.

Number* and Rates of Fall Enrollments, Graduations, and Transfers in STEM Programs

College	Fall FTIC Enrollments in STEM				Annual Graduations in STEM				Annual Transfers from STEM			
	2009		2010		2008-09		2009-10		2008-09		2009-10	
	N	%	N	%	N	%	N	%	N	%	N	%
Blue Ridge	42	5	74	9	29	6	30	7				
Central Virginia	146	19	128	15	49	14	72	19	23	7	40	10
Dabney S. Lancaster	27	12	34	15	26	21	30	20	10	8	11	7
Danville	122	23	121	21	52	12	49	16	21	7	21	8
Eastern Shore	38	23	34	20	15	16	11	11	7	7	5	5
Germanna	109	13	159	17	64	12	56	10	34	8	32	7
J. Sargeant Reynolds	327	23	323	23	90	12	119	15	81	11	112	14
John Tyler	104	10	98	9	29	5	32	5	9	1		
Lord Fairfax	171	17	156	15	66	14	91	15	45	7	44	7
Mountain Empire	72	16	82	17	35	13	30	11	8	4	12	6
New River	104	17	105	17	69	17	80	17	43	11	40	9
Northern Virginia	1,389	20	1,440	21	456	15	584	15	570	17	622	18
Patrick Henry	56	12	66	15	47	14	59	17	8	4	13	5
Paul D. Camp	20	12	15	11	9	7	7	5				
Piedmont Virginia	97	15	97	15	36	9	54	14	33	6	41	8
Rappahannock	18	4	16	4	8	4	7	3				
Southside Virginia	72	10	52	8	31	7	38	8	11	3	8	2
Southwest Virginia	116	20	97	22	62	17	50	12	31	16	35	15
Thomas Nelson	477	30	469	32	138	14	146	17	106	19	104	16
Tidewater	1,188	21	1,046	21	402	17	477	18	226	15	306	17
Virginia Highlands	92	18	103	22	32	13	29	12	20	10	27	11
Virginia Western	247	23	257	25	97	17	93	14	53	7	79	9
Wytheville	46	8	62	12	28	8	33	8	10	5	21	10
VCCS Total	5,080	19	5,034	19	1,870	13	2,177	14	1,359	11	1,583	12

*Cells with less than 5 students were left blank.

How Were Data Generated?

- VCCS student files were used to identify students enrolled in STEM programs and to generate annual enrollment data. Only students who were program-placed were considered in the calculations.
- STEM programs were identified based on CIP codes found in recent SCHEV guidelines. Majors included are agriculture, natural resources and conservation, architecture, computer and information sciences, engineering, engineering technologies/technicians, biological and biomedical sciences, science technologies/technicians, and biological and physical sciences.
- VCCS graduate files were used to produce graduation data.
- Transfer data were retrieved from the National Student Clearinghouse and matched to VCCS exiting students identified using VCCS GPA and credits-earned files. Program enrollment information for exiting students was determined from student files.

For More Information

Visit http://www.vccs.edu/studentsuccess to learn more about student success.