

Forestry Program Review 2008-2009

Spring 2009

Prepared by

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1. Faculty Full-Time Faculty Robert Goodman

Adjunct Faculty Phillip Kang

2. List of Certificates/Awards Offered

Certificate of Achievement - Forestry

3. List of Degrees

A.S. - Wildland Resources and Forestry - Proposed

4. List of Industry-Based Standard Certificates

None

5. Advisory Committee

Glenn Barely – Unit Forester - CA Dept of Forestry & Fire Protection

Keith Condon – LACo Fire – Forestry Division (Brush Clearance), Forestry Assistant

Terry Dickerson – CDFG, Staff Environmental Sciences

Paul Galvin - Harmsworth Associates – Biologist

Bill Brown – USFS, Forest Biologist - Retired

Marty Dumpis – USFS, District Ranger - Transfered

David R. Leininger - Chief, Forestry Division - County of L.A. Fire Department - Retired

Eric Oldar – CDF, Regional Staff Specialist – Urban and Community Forestry - Retired

6. Sequence of Courses

Subject &	Title	Units
Course No.		
FOR 101	Introduction to Forestry	3
FOR 102	Introduction to Forest Ecology	3
FOR 103	Plant Identification	3
FOR 104	Introduction to Outdoor Recreation	3
FOR 105	Wildand Fire Management	3
FOR 106	Principles of Wildlife Management and Ecology	3
ESCI 180	Introduction to Geographic Informations Systems	3

Classes not offered in the last two years:

Subject & Course No.	Title	Units
None		

7. Institutional Competencies

The Forestry Program has adopted the Institutional General Education Competencies of Citrus College. The General Education Competencies (as set forth in the Academic Senate minutes dated August 25th 2004) are as follows:

Institutional General Education Competencies-Part of Institutional Mission

General education competencies serve as a common set of core curricular components identified and defined by faculty. Student learning outcomes are behaviors based on these competencies.

Any student transferring, completing a degree or certificates from Citrus College, must demonstrate effectively assessed awareness, understanding, knowledge, skills, and abilities in the selected competencies.

1. Communication (personal expression and information acquisition)

Examples

Reading analytically and critically
Writing with clarity and fluency

Speaking articulately
Listening actively

2. Computation

Examples

Technology Computer proficiency
Math proficiency Decision analysis

Analyzing and using numerical data (Synthesis and evaluation)

Application of mathematical concepts and reasoning

3. Creative, Critical, and Analytical Thinking

Examples

Curiosity Research

Analysis Learning Strategies
Synthesis Problem Solving
Evaluation Decision making
Creativity Aesthetic awareness

4. Community, Critical, and Analytical Thinking

Examples

Respect for others beings Citizenship

Cultural awarenessInterpersonal skillsEthicsLifelong learningCommunity serviceSelf esteemIntegrityEmpathy

5. Technology/information competency

Examples

Basic computing and word processing

6. Discipline/Subject area specific content material - Project Plan Course outlines of record detail specific outcome objectives for each content area.

8. Program Description / Mission

The Forestry Program provides a diversity of educational experiences to students majoring within the areas of wildland resources and forestry to enhance transferability to four-year programs. The courses provide the traditional curricular content of forest management as well as new emerging areas of interest such as ecosystem and resource management, urban forestry, and long-term sustainability. For students not intending to transfer, but who would like to pursue a professional career within wildland resources and forestry, these courses can be used to obtain a certificate of achievement to enhance their employability with federal, state, and county agencies or the private sector.

9. Program Goals

The goals of the Forestry Program are to:

- a) Provide general education science courses for transfer credit to four-year colleges and universities.
- b) Provide a certificate of achievement within wildland resources and forestry to enhance employability.
- c) Meet the student learning outcomes and core competencies institutionalized by Citrus College.
- d) Provide fundamental wildland resources and forestry knowledge and skills for students.

10. Program Student Learning Outcomes

General education competencies serve as a common set of core curricular components identified and defined by faculty. Student learning outcomes are behaviors based on these competencies.

Any student transferring, completing a degree or certificate from Citrus College, must demonstrate effectively assessed awareness, understanding, knowledge, skills, and abilities in the selected competencies.

Students completing courses in the Forestry Program will have acquired the following comptencies:

1) Communication (personal expression and information acquisition)

a) Express knowledge of scientific terminology as it relates to the management of wildland and other renewable resources.

2) Computation

a) Collect and interpret data, tables, and graphs to demonstrate an understanding of the types of data available in the realm of wildland resources.

3) Creative, Critical, and Analytical Thinking

a) Generate scientific hypotheses to distinguish between scientific and non-scientific questions and methods that relate to wildland resources to meet the emerging mandates for conservation, biodiversity, ecosystem management, and long-term sustainability.

4) Community/Global Consciousness and Responsibility

a) Examine how human activities have contributed to changes in the wildland environment to better understand and discuss past, current, and future issues related to wildland resources.

5) Technology

a) Select and use appropriate scientific apparatus.

6) Discipline / (Subject Area Specific Content Material)

a) Not applicable

7) Information Competency

a) Not applicable

8) Other

a) None

11. Course Student Learning Outcomes & Assessment Timeline

The Forestry Program is building student learning outcomes (SLOs) for all Forestry courses offered at Citrus College according to an on-going review and progress schedule. All new classes offered will have SLOs developed when the class is first offered. The department will work with the SLO and Curriculum committees to ensure course outlines are being created according to the standards established by the committees.

Subject &	Title	Completion date
Course		
FOR 101	Introduction to Forestry	Assesm.Comp.
FOR 102	Introduction to Forest Ecology	Assesm. Comp.
FOR 103	Plant Identification	Assesm. Comp.
FOR 104	Introduction to Outdoor Recreation	Assesm. Spring 09
FOR 105	Wildand Fire Management	Assesm. Comp.
FOR 106	Principles of Wildlife Management and Ecology	Assesm. Comp.
ESCI 180	Introduction to Geographic Informations Systems	Assesm. Fall 09

12. Evaluation Criteria – Mission

Commendations

- a) This program conforms with the District mission to provide transfer and associate degree courses and is currently the only program in southern California to provide a Forestry Certificate of Achievement.
- b) The seven courses in the Forestry program all articulate with the California State University System. California State Polytechnic University-San Luis Obispo (Society of American Foresters accredited institution) grants credit for FOR 101, 104, 105, and 106 as equivalent to courses in their lower division curriculum. FOR 102, 103, and ESCI 180 are currently under review for inclusion in the list of approved courses. FOR 101 and 102 articulate with the University of California.
- c) The courses in the program are scheduled in a manner that allows both day and evening students to make timely progress toward completion of the certificate.
- d) The Forestry Advisory Committee, with representatives from Federal, State, County management agencies, and the private community, meet annually to provide important insight on the trends associated with wildland and urban forest management across the state and country. Information gained from these meetings influence curriculum changes within the program.

Previous Recommendations Completed

a) Faculty in the program should evaluate the need for an additional course, or a program revision that provides some emphasis on urban forestry. [FOR 101 incorporates urban forestry as part of its curriculum.]

Recommendations

- a) Faculty should investigate offering FOR 101 in an online format to better serve the non-traditional student population.
- b) Develop a plan to increase ethnic diversity within the program.
- c) Rename program from Forestry to Wildland Resources and Forestry to better reflect the curriculum associated with the program and attract a broader range of students.

13. Evaluation Criteria – Need

Commendations

- a) This program currently provides courses which meet the needs of students as stated in the mission statement.
- b) The scheduling of courses provides the opportunity for full-time students to complete the program within three semesters and allows evening students the opportunity to complete the program within six semesters.
- c) Enrollment has continued to grow, with students increasingly interested in transfer to four-year institutions.

- d) A close working relationship with the faculty at CSU-SLO has been developed and is assisting our students who have transfer aspirations in Natural Resources.
- e) The Forestry Advisory Committee continues to provide insight into a wide range of issues associated with the program's content and focus.

Previous Recommendations Completed

- a) Funding should be increased to insure that adequate materials can be purchased to support the field aspects of the program. [The Forestry Program recently received funding adequate for current equipment and material needs].
- b) The program should work with the web design specialist to develop a WWW home page to enhance the visibility of the program.[A website for Forestry has been completed].
- c) While cooperative education experiences are possible during the academic year, it is recommended that contacts be made with state land management agencies to see if a summer internship program can be established that would give students a hands-on experience in resource management. [Forestry Cooperative Education experience was provided to students in the spring/summer of 2008].

Recommendations

a) Faculty in the program should consider enhancing the Forestry web page in an attempt to increase the visibility of the program.

14. Evaluation Criteria – Quality

Commendations

- a) The faculty in this program have established uniform grading standards that rely on critical thinking.
- b) Yearly input from the Forestry Advisory Committee supports the current curriculum.
- c) Recently developed computer-based learning enhances comprension of course materials.
- d) Certificate courses enhance the employment skills of students upon completion of the program.

Previous Recommendations Completed

a) Statewide budget cuts will have a dramatic impact on all campus activities. As funds are restored, the Forestry faculty should have a plan in place to document a need for budget augmentation. [Faculty in the program have developed a plan for equipment allocation to enhance the educational experience of students in the program].

Recommendations

a) Faculty in the program should assess funding requirements for equipment and supply needs on an annual basis.

- b) Faculty should examine the lack of articulation with CSU Humboldt and develop appropriate plans or curricula to improve program articulation.
- c) Faculty should actively pursue articulation with agriculture programs at Cal Poly Pomona.
- d) Faculty should continue to be actively involved with Cal Poly San Luis Obisbo's Natural Resources and Forestry Advisory Committee.
- e) Faculty should explore the option of including three units of Natural History as a part of the certificate to enhance student field experience.
- f) Faculty within the program are encouraged to pursue additional cooperative educational opportunities for students throughout the academic year.
- g) Faculty should consider developing an A.S. degree in Wildland Resources and Forestry.

15. Evaluation Criteria – Feasibility

Commendations

- a) The Forestry Program is now located in PC 314. This location provides a centralized location for the program to store equipment and materials, as well as offer a technology-enhanced setting (Smart-panel, multimedia with LCD projection system) for classroom instruction.
- b) Library resources have been upgraded, especially with the inclusion of the Journal of Forestry on the college periodical list.
- c) New equipment for the Forestry Program was purchased in 2008 in order to enhance instruction in the classroom and in the field.

Previous Recommendations Completed

- a) Develop plans for more hands-on, laboratory-type activities in the program. [Hands-on, laboratory-type activities have been incorporated into all seven courses associated with the program].
- b) The budget for the program is small and the faculty should develop a "needs" list, with rationale, that will allow budget augmentation as funding returns to normal levels over the next 2 to 4 years. [The budget has increased since the previous program review and an annual needs list is provided by the faculty based on program requirements].

Recommendations

- a) Faculty should investigate the possibility of offering Forestry 101 in an online format to enhance participation in the program.
- b) Faculty should pursue funding opportunities for the purpose of portable GPS units to be used by students in the field.

16. Evaluation Criteria – Compliance

Commendations

- a) Faculty members have worked with the DSPS office, Testing Center, and Web Office to ensure that faculty web sites comply with federal regulations.
- b) Annual course review of the Forestry Program by faculty and the Advisory Committee are completed to ensure relevancy to the needs of industry and articulation with four-year universities.

Previous Recommendations Completed

a) No previous recommendations.

Recommendations

a) No recommendations

17. Appendix A: Program Performance Indicators

Kay Dayfaymanaa Indicator	FA 02	FA 03	FA 04	FA 05	FA 06	FA 07
Key Performance Indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Program Access						
Majors (total)						
New Majors						
Courses Offered (total # of courses)	3	1	3	3	2	3
Classes Offered (total # of sections)	3	1	3	3	2	3
Morning (Prior to 11:59AM)	2	1	2	1	1	2
Afternoon						
Evening (4:30PM or Later)	1		1	2	1	1
Arranged Hour						
Weekend						
Short term	1					
Distance Education (full term)						
Distance Education (short term)						
Enrollment	82	38	100	96	40	85
Weekly Student Contact Hours (WSCH)	236.3	110.8	291.7	280.0	122.5	275.4
Full-Time Equivalent Students (FTES)	8.1	3.8	10.0	9.6	4.2	8.4
Program Resources						
Full-Time Equivalent Faculty (FTEF)	0.49	0.16	0.49	0.49	0.32	0.46
Credit Reimbursement Rate	\$2,850.73	\$2,790.53	\$2,922.30	\$3,259.71	\$3,476.34	\$4,367.00
Program Operation						
WSCH/FTEF	482.1	692.7	595.2	571.4	382.8	598.7
FTES/FTEF	16.5	23.8	20.4	19.6	13.1	18.2
Fill rate at Census	67.5	95.0	83.3	80.0	52.5	57.6
Program Success						
Error! Hyperlink reference not valid.	76%	68%	79%	77%	75%	82%
Retention Rate	99%	97%	91%	99%	95%	98%

Key Performance Indicator	FA	02	FA	03	FA	04	FA	05	FA	06	FA	07
key Performance Indicator	Yea	ar 1	Yea	ar 2	Yea	ır 3	Yea	ar 4	Yea	ır 5	Yea	r 6
Student Demographic Data												
	#	%	#	%	#	%	#	%	#	%	#	%
Gender												_
Female	14	29%	12	32%	23	35%	21	31%	11	31%	18	32%
Male	34	71%	26	68%	43	65%	47	69%	24	69%	39	68%
Total	48	100%	38	100%	66	100%	68	100%	35	100%	57	100%
Age												
19 or younger	13	27%	13	34%	20	30%	15	22%	4	11%	11	19%
20-24	19	40%	16	42%	22	33%	30	44%	12	34%	27	47%
25-29	7	15%	4	11%	10	15%	8	12%	11	31%	5	9%
30-34	2	4%	1	3%	3	5%	6	9%	4	11%	7	12%
35-39	3	6%	1	3%	1	2%	1	1%	1	3%	2	4%
40-49	4	8%	3	8%	7	11%	6	9%	1	3%	3	5%
50 and above					3	5%	2	3%	2	6%	2	4%
Total	48	100%	38	100%	66	100%	68	100%	35	100%	57	100%
Ethnicity												
Asian	7	15%	2	5%	2	3%	1	1%			4	7%
African American	2	4%			1	2%						
Hispanic	9	19%	7	18%	20	30%	19	28%	9	26%	13	23%
Native American/Alaskan Native	3	6%	1	3%	1	2%			2	6%	2	4%
Other	2	4%	1	3%	3	5%	2	3%	1	3%	1	2%
Caucasian	23	48%	23	61%	37	56%	39	57%	20	57%	31	54%
Decline to State	2	4%	4	11%	1	2%	6	9%	3	9%	3	5%
Missing					1	2%	1	1%			3	5%
Total	48	100%	38	100%	66	100%	68	100%	35	100%	57	100%
Educational Goal												
Degree/Cert/Transfer	39	81%	32	84%	56	85%	54	79%	29	83%	12	21%
Career/Ed Development	2	4%	2	5%	1	2%	3	4%	3	9%	7	12%
Unknown	7	15%	4	11%	9	14%	11	16%	3	9%	38	67%
Total	48	100%	38	100%	66	100%	68	100%	35	100%	57	100%

Vay Darfarmanaa Indiaatar	SP 03	SP 04	SP 05	SP 06	SP 07	SP 08
Key Performance Indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Program Access						
Najors (total)						
New Majors						
Courses Offered (total # of courses)	2	2	3	3	3	4
classes Offered (total # of sections)	2	2	3	3	3	4
Morning (Prior to 11:59AM)	1	1	2	2	2	2
Afternoon						
Evening (4:30PM or Later)	1	1	1	1	1	1
Arranged Hour						1
Weekend						
Short term						
Distance Education (full term)						
Distance Education (short term)						
nrollment	62	82	72	74	77	76
Veekly Student Contact Hours (WSCH)	171.3	264.1	242.1	237.6	266.9	290.7
ull-Time Equivalent Students (FTES)	6.2	9.6	8.8	8.6	9.7	8.9
Program Resources						
ull-Time Equivalent Faculty (FTEF)	0.32	0.38	0.59	0.59	0.59	0.72
redit Reimbursement Rate	\$2,850.73	\$2,790.53	\$2,922.30	\$3,259.71	\$3,476.34	\$4,367.00
Program Operation						
VSCH/FTEF	535.4	695.1	410.3	402.8	452.4	403.7
TES/FTEF	19.4	25.2	14.8	14.6	16.4	12.3
ill rate at Census	77.5	107.3	62.1	51.4	54.2	51.0
Program Success						
rror! Hyperlink reference not valid.	66%	58%	54%	66%	68%	72%
letention Rate	94%	91%	82%	88%	94%	96%

Va. Parfamana la disata	SP	03	SP	04	SP	05	SP	06	SP	07	SP	08
Key Performance Indicator	Yea	ır 1	Yea	ır 2	Yea	ır 3	Yea	ır 4	Year 5		Yea	r 6
Student Demographic Data												
	#	%	#	%	#	%	#	%	#	%	#	%
Gender												
Female	17	30%	24	33%	18	34%	16	27%	27	46%	14	26%
Male	39	70%	48	67%	35	66%	43	73%	32	54%	39	72%
Missing											1	2%
Total	56	100%	72	100%	53	100%	59	100%	59	100%	54	100%
Age	•											
19 or younger	6	11%	18	25%	9	17%	10	17%	8	14%	11	20%
20-24	29	52%	28	39%	24	45%	27	46%	28	47%	24	44%
25-29	8	14%	8	11%	7	13%	10	17%	9	15%	4	7%
30-34	3	5%	3	4%	6	11%	4	7%	4	7%	7	13%
35-39	4	7%	6	8%	2	4%	2	3%	2	3%	1	2%
40-49	5	9%	4	6%	3	6%	5	8%	4	7%	4	7%
50 and above	1	2%	4	6%	2	4%	1	2%	4	7%	3	6%
Missing			1	1%								
Total	56	100%	72	100%	53	100%	59	100%	59	100%	54	100%
Ethnicity	•											
Asian	4	7%	3	4%	2	4%	3	5%	4	7%	3	6%
African American	2	4%	3	4%			3	5%				
Hispanic	9	16%	16	22%	14	26%	14	24%	16	27%	15	28%
Native American/Alaskan Native	1	2%	2	3%	1	2%	1	2%	2	3%	2	4%
Other	1	2%	2	3%	1	2%	1	2%				
Caucasian	33	59%	39	54%	33	62%	32	54%	33	56%	26	48%
Decline to State	6	11%	6	8%	1	2%	5	8%	4	7%	5	9%
Missing			1	1%	1	2%					3	6%
Total	56	100%	72	100%	53	100%	59	100%	59	100%	54	100%
Educational Goal												
Degree/Cert/Transfer	41	73%	51	71%	44	83%	51	86%	46	78%	12	22%
Career/Ed Development	5	9%	5	7%	3	6%	1	2%	5	8%	7	13%
Undecided											1	2%
Unknown	10	18%	16	22%	6	11%	7	12%	8	14%	34	63%
Total	56	100%	72	100%	53	100%	59	100%	59	100%	54	100%

Van Daufaumanaa Indiaatau	SU 02	SU 03	SU 04	SU 05	SU 06	SU 07
Key Performance Indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Program Access						
Majors (total)						
New Majors						
Courses Offered (total # of courses)	No Data					
Classes Offered (total # of sections)	No Data					
Morning (Prior to 11:59AM)						
Afternoon						
Evening (4:30PM or Later)						
Arranged Hour						
Weekend						
Short term						
Distance Education (full term)						
Distance Education (short term)						
Enrollment						
Weekly Student Contact Hours (WSCH)						
Full-Time Equivalent Students (FTES)						
Program Resources						
Full-Time Equivalent Faculty (FTEF)						
Credit Reimbursement Rate	\$2,850.73	\$2,790.53	\$2,922.30	\$3,259.71	\$3,476.34	\$4,367.00
Program Operation						
WSCH/FTEF	No Data					
FTES/FTEF	No Data					
Fill rate at Census						
Program Success						
Course Retention	No Data					
Course Success (any course, C or better or "Pass")	No Data					

Key Performance	S	u 03	S	u 04	S	u 05	S	u 06	S	u 07	S	u 08
Indicator	Y	Year 1		Year 2		Year 3		Year 4		Year 5		ear 6
Student Demographic												
Data												
	#	%	#	%	#	%	#	%	#	%	#	%
	No Summer Data											

Vov Doufoumones Indicator						WN 08
Key Performance Indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Program Access						
Majors (total)						
New Majors						
Courses Offered (total # of courses)						No Data
Classes Offered (total # of sections)						No Data
Morning (Prior to 11:59AM)						
Afternoon						
Evening (4:30PM or Later)						
Arranged Hour						
Weekend						
Short term						
Distance Education (full term)						
Distance Education (short term)						
Enrollment						
Weekly Student Contact Hours (WSCH)						
Full-Time Equivalent Students (FTES)						
Program Resources						
Full-Time Equivalent Faculty (FTEF)						
Credit Reimbursement Rate						\$4,367.00
Program Operation						
WSCH/FTEF						No Data
FTES/FTEF						No Data
Fill rate at Census						
Program Success						
Course Retention						No Data
Course Success (any course, C or better or "Pass")						No Data

Key Performance	W	/N 02	W	/N 03	V	/N 04	W	/N 05	W	/N 06	W	N 07
Indicator	Y	ear 1	Y	ear 2	Y	ear 3	Y	ear 4	Y	ear 5	Y	ear 6
Student Demographic												
Data												
	#	%	#	%	#	%	#	%	#	%	#	%
	•	•	N	o Winter D	ata	•	•		•	•	•	

Vov Douformones Indicator	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Key Performance Indicator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Program Resources						
Revenue: FTES* Reimbursement Rate	40,765	37,281	54,822	59,327	48,182	75,331
Total District Adopted Program Budget	n/a	16,494	31,776	31,314	34,962	37,103
Support Personnel (wage without benefit, 2200 and 2400 in budget)	n/a	6,931	3,419	3,505	5,088	5,577
Supplies (4300 in budget)	n/a	0	444	43	56	0
Cost (district funds only)	n/a	18,285	36,410	27,800	38,271	47,658
Total FTES for the year	14.3	13.36	18.76	18.2	13.86	17.25
Cost per FTES (district funds only)	n/a	1,369	1,941	1,527	2,761	2,763
Program Success						
Degrees Awarded						
Certificates Awarded	4	3	2		11	
Skill Awards						
Licenses						
Career Technica	l Education	n Programs	5			
VTEA Grant						
Industry Contributions to Program Resources						
Available Jobs						
Attach one copy of the three most recent College Core Indicator Inform				e TOP codes		
Please include "Student Satisfaction" and "Employer Satisfaction" in the	e program rev	iew write-up	•			

18. Appendix B

LIBRARY ACTIVITY:

Library Research Orientations: 0

Circulation of materials in Forestry: > 3% of total library circulation

LIBRARY RESOURCES:

Dewey Call No. Range: 570-580, 333, 634,

COLLECTION SIZE:

BOOKS	604
eBOOKS	484
AV	35
JOURNALS	3 PRINT +

EJOURNALS:

- Biology
 - o Biology General (180)
 - o Biophysics (39)
 - o Cytology (64)
 - o Evolution (15)
 - o Genetics (82)
 - o Microbiology & Immunology (95)
 - o Microscopy (7)
- Title contains all words "forestry", "forest", "timber"
 - Forestry & British timber (0308-7638) Title details from ulrichsweb.comTM Look up Article

from 03/19/1999 to present in <u>LexisNexis Academic</u> from 08/01/2002 to present in <u>Business Source</u>

Premier

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• iForest: Biogeosciences and Forestry (1971-7458) Title details from ulrichsweb.comTM Look up Article

from 2008 to present in <u>Directory of Open Access</u> Journals

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• Journal of forestry (0022-1201) <u>Title details from ulrichsweb.comTM</u> <u>Look up Article</u>

in Citrus College Print Journals and EBSCOhost EJS

from 1986 to 1988 in OPAC from 1993 to present in OPAC

from 01/01/1999 to present in ProQuest Biology

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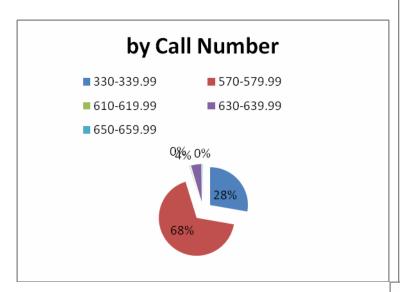
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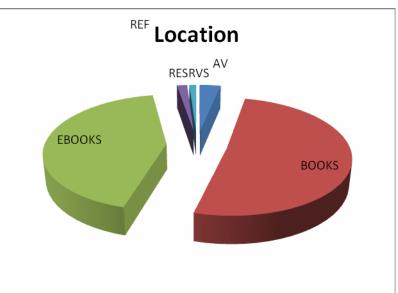
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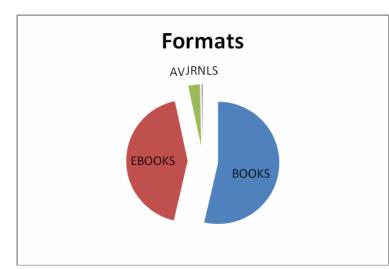
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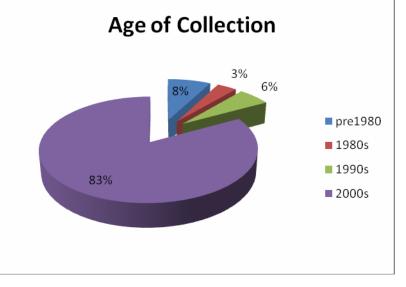
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