

**I-ALP. Graduate Programs**

Annual Report, 2012-2013

Department/Division: Computer ScienceCollege: Arts and Sciences

Part I-ALP, Summary Report on Assessment, Academic Learning Plans (ALP)

Program Title<sup>a</sup>: Computer Science Degree<sup>b</sup> MS CIP Code: 11.0101<sup>a</sup>Prepare separate summary table for each degree program.<sup>b</sup>For example, MA, MS, M.Ed., Ed.D.

- Based on **direct (required) and indirect (optional) measures** of student learning in the domain(s) your department assessed, compare your students' performance this year to their performance in previous years.
- Duplicate this section when reporting assessments for more than one domain for a given program.

**Note:** The graduate assessment summary described in this report encompasses all three specializations within the Computer Science graduate program: Computer Science, Database Systems, and Software Engineering. The CS program ALP ([http://uwf.edu/cutla/ALP/Computer\\_Sci\\_ALP.pdf](http://uwf.edu/cutla/ALP/Computer_Sci_ALP.pdf)) was intentionally developed by the faculty to distinguish between the content outcomes for each specialization yet capture the common high-level outcomes for the other four domains across the specializations. The assessment of outcomes was conducted in the graduate project or thesis courses, which are required for students from all three specializations to complete their program requirements. Students identify a mentor or committee for their project or thesis, and students from multiple specializations may work with the same faculty member.

Indicate the student learning outcome assessed (check one):					
X	Content		Communication		Project Management
	Critical Thinking		Integrity/Values		Other (describe)

Describe the <b>specific student learning outcome</b> assessed in this domain:
<ul style="list-style-type: none"> <li>- Describe, compare, and evaluate at an expert level one or more contemporary topics of specialization in modern computing</li> <li>- Apply computing principles to a specific problem domain</li> </ul>

<b>REQUIRED:</b> Describe the <b>direct measure(s)</b> used to assess student learning in this domain (e.g., answers to questions included on an exam, performance on a paper or project scored with a rubric, etc.). Include information about any additional measures used to assess learning outcomes in this domain.
<i>Content was assessed by reviewing a) collected research artifacts such as midterm reports, thesis proposal, etc., b) submitted final project documentation/reports or theses and/or c) presentations given to audience including faculty, peers, and others. Criteria were a) compliance with CS modeling, design and implementation principles for CS projects/thesis and b) awareness of state-of-the-art principles and research methods.</i>
If you observed changes in student performance on this measure when compared to previous years, briefly describe (in one or two sentences) the nature of these changes.
<i>The observed trend is an improvement in all domains under assessment, except for Project Management. This can be interpreted as a result of stricter requirements to reach the project/thesis stage, generally from more stringent enforcement of learning objectives earlier in the curriculum. Also, a tighter supervision of the thesis or project involved can account for a more successful outcome. These numbers actually reverse a trend that was visible over the last two periods, reestablishing the positive results of 2009-2010.</i>
<b>OPTIONAL:</b> Describe the <b>indirect measure(s)</b> used to assess student learning in this domain (e.g., answers to questions included on an exam, performance on a paper or project scored with a rubric, etc.). Include information about any additional measures used to assess learning outcomes in this domain.
N/A
If you observed changes in student performance on this measure when compared to previous years, briefly describe (in one or two sentences) the nature of these changes.
N/A
<b>Use of Assessment Data for Making Decisions.</b> Describe the process used in your department to evaluate

assessment evidence and make decisions (include dates of relevant department meetings if known). Describe the decisions made to improve student learning in your program. Describe how these decisions are related to the assessment evidence collected by your department.
<i>Instructors summarize data collected from last Summer, Fall, and Spring and report them to the department. Faculty members review data and take appropriate actions to improve the achievement of student learning outcomes or assessment process at the annual assessment meeting. The assessment committee summarizes the results and faculty recommendations for the departmental annual report. This summary is reviewed by university and accreditation committees as necessary, as well as part of the Computer Science program review.</i>
<i>Recommendations are being contemplated upon to consider the incorporation and assessment of group-based projects to promote discussions and collaborations which may improve student achievement in specific content.</i>
<b>Use of Assessment Data for Improvement of Assessment Procedures.</b> Describe any changes made to assessment methods. Explain the relation between these changes and the information obtained from previous assessments.
<i>In general, the 2012/2013 data supports the direction in which the assessment is heading; the results are back to expectations after two periods – this trend needs be monitored.</i>

**Describe the Department's Commitment to Assessment Activities in 2012-2013**

<b>Domain(s) to be examined from the department's multi-year assessment plan in 2012-2013</b>
<i>All domains will continue to be assessed at the graduate level.</i>
<b>Assessment question(s) to be addressed in 2013-2014</b>
<i>Can the evaluation criteria be made more representative in terms of distinguishing between meeting and exceeding standards? How can these criteria account for the wide variety of projects and theses? Can the assessment process be further improved along the lines of ABET standards?</i>

**I-ALP. Graduate Programs**

Annual Report, 2012-2013

Department/Division: Computer ScienceCollege: Arts and Sciences

Part I-ALP, Summary Report on Assessment, Academic Learning Plans (ALP)

Program Title<sup>a</sup>: Computer Science Degree<sup>b</sup> MS CIP Code: 11.0101<sup>a</sup>Prepare separate summary table for each degree program.<sup>b</sup>For example, MA, MS, M.Ed., Ed.D.

- Based on **direct (required) and indirect (optional) measures** of student learning in the domain(s) your department assessed, compare your students' performance this year to their performance in previous years.
- Duplicate this section when reporting assessments for more than one domain for a given program.

Indicate the student learning outcome assessed (check one):					
	Content		Communication		Project Management
X	Critical Thinking		Integrity/Values		Other (describe)

Describe the <b>specific student learning outcome</b> assessed in this domain:
<ul style="list-style-type: none"> <li>- Identify and analyze alternate approaches to solving computing problems</li> <li>- Implement and analyze relevant algorithms in a variety of environments</li> </ul>

<b>REQUIRED:</b> Describe the <b>direct measure(s)</b> used to assess student learning in this domain (e.g., answers to questions included on an exam, performance on a paper or project scored with a rubric, etc.). Include information about any additional measures used to assess learning outcomes in this domain.
<i>Critical Thinking was assessed by</i> <ol style="list-style-type: none"> <li><i>reviewing any collected research artifacts such as thesis proposal, midterm report, final reports, etc. with regard to the study of literature, exploration of alternative methods and validity of methods applied, substantiation of design decisions and conclusions as well as self-criticism and rational outlooks,</i></li> <li><i>scrutinizing student presentations with regard to presented arguments as well as any answers given to critical questions from the audience.</i></li> </ol>
If you observed changes in student performance on this measure when compared to previous years, briefly describe (in one or two sentences) the nature of these changes.
<i>The observed trend is an improvement in all domains under assessment, except for Project Management. This can be interpreted as a result of stricter requirements to reach the project/thesis stage, generally from more stringent enforcement of learning objectives earlier in the curriculum. Also, a tighter supervision of the thesis or project involved can account for a more successful outcome. These numbers actually reverse a trend that was visible over the last two periods, reestablishing the positive results of 2009-2010.</i>
<b>OPTIONAL:</b> Describe the <b>indirect measure(s)</b> used to assess student learning in this domain (e.g., answers to questions included on an exam, performance on a paper or project scored with a rubric, etc.). Include information about any additional measures used to assess learning outcomes in this domain.
N/A
If you observed changes in student performance on this measure when compared to previous years, briefly describe (in one or two sentences) the nature of these changes.
N/A
<b>Use of Assessment Data for Making Decisions.</b> Describe the process used in your department to evaluate assessment evidence and make decisions (include dates of relevant department meetings if known). Describe the decisions made to improve student learning in your program. Describe how these decisions are related to the assessment evidence collected by your department.
<i>Instructors summarize data collected from last Summer, Fall, and Spring and report them to the department. Faculty members review data and take appropriate actions to improve the achievement of student learning outcomes or assessment process at the annual assessment meeting. The assessment committee summarizes the results and faculty recommendations for the departmental annual report. This summary is reviewed by university and accreditation committees as necessary, as well as part of the Computer Science program review.</i>

No recommendations specific to this particular domain are under consideration for the next term.

**Use of Assessment Data for Improvement of Assessment Procedures.** Describe any changes made to assessment methods. Explain the relation between these changes and the information obtained from previous assessments.

*In general, the 2012/2013 data supports the direction in which the assessment is heading; the results are back to expectations after two periods – this trend needs be monitored.*

**Describe the Department's Commitment to Assessment Activities in 2013-2014**

**Domain(s) to be examined from the department's multi-year assessment plan in 2013-2014**

*All domains will continue to be assessed at the graduate level.*

**Assessment question(s) to be addressed in 2013-2014**

*Can the evaluation criteria be made more representative in terms of distinguishing between meeting and exceeding standards? How can these criteria account for the wide variety of projects and theses? Can the assessment process be further improved along the lines of ABET standards?*

**I-ALP. Graduate Programs**

Annual Report, 2012-2013

Department/Division: Computer ScienceCollege: Arts and Sciences

Part I-ALP, Summary Report on Assessment, Academic Learning Plans (ALP)

Program Title<sup>a</sup>: Computer Science Degree<sup>b</sup> MS CIP Code: 11.0101<sup>a</sup>Prepare separate summary table for each degree program.<sup>b</sup>For example, MA, MS, M.Ed., Ed.D.

- Based on **direct (required) and indirect (optional) measures** of student learning in the domain(s) your department assessed, compare your students' performance this year to their performance in previous years.
- Duplicate this section when reporting assessments for more than one domain for a given program.

Indicate the student learning outcome assessed (check one):					
	Content	X	Communication		Project Management
	Critical Thinking		Integrity/Values		Other (describe)

Describe the <b>specific student learning outcome</b> assessed in this domain:
<ul style="list-style-type: none"> <li>- <i>Employ effective and professional technical writing skills</i></li> <li>- <i>Present summary of thesis or project results using appropriate technologies</i></li> </ul>

<b>REQUIRED:</b> Describe the <b>direct measure(s)</b> used to assess student learning in this domain (e.g., answers to questions included on an exam, performance on a paper or project scored with a rubric, etc.). Include information about any additional measures used to assess learning outcomes in this domain.
<i>Communication was assessed by: (a) written project reports/theses; and (b) presentations before an audience (peers, faculty, and others). Written communication skills were assessed by considering structure, form, and use of language of report/theses and presentation slides. Oral communication skills were assessed by considering coherence of presentation, timing, posture, and audience interaction in response to questions.</i>
If you observed changes in student performance on this measure when compared to previous years, briefly describe (in one or two sentences) the nature of these changes.
<i>The observed trend is an improvement in all domains under assessment, except for Project Management. This can be interpreted as a result of stricter requirements to reach the project/thesis stage, generally from more stringent enforcement of learning objectives earlier in the curriculum. Also, a tighter supervision of the thesis or project involved can account for a more successful outcome. These numbers actually reverse a trend that was visible over the last two periods, reestablishing the positive results of 2009-2010.</i>
<b>OPTIONAL:</b> Describe the <b>indirect measure(s)</b> used to assess student learning in this domain (e.g., answers to questions included on an exam, performance on a paper or project scored with a rubric, etc.). Include information about any additional measures used to assess learning outcomes in this domain.
N/A
If you observed changes in student performance on this measure when compared to previous years, briefly describe (in one or two sentences) the nature of these changes.
N/A
<b>Use of Assessment Data for Making Decisions.</b> Describe the process used in your department to evaluate assessment evidence and make decisions (include dates of relevant department meetings if known). Describe the decisions made to improve student learning in your program. Describe how these decisions are related to the assessment evidence collected by your department.
<i>Instructors summarize data collected from the Fall and Spring semesters, which is reported to the department. Faculty members review and evaluate the data and take appropriate actions to improve the achievement of student learning outcomes or the assessment process at the annual assessment meeting. The assessment committee summarizes the results and faculty recommendations for the departmental annual report. University, Computer Science program review, and accreditation committees evaluate these reports.</i>

No recommendations specific to this particular domain are under consideration for the next term.

**Use of Assessment Data for Improvement of Assessment Procedures.** Describe any changes made to assessment methods. Explain the relation between these changes and the information obtained from previous assessments.

*In general, the 2012/2013 data supports the direction in which the assessment is heading; the results are back to expectations after two periods – this trend needs be monitored.*

**Describe the Department's Commitment to Assessment Activities in 2013-2014**

**Domain(s) to be examined from the department's multi-year assessment plan in 2013-2014**

*All domains will continue to be assessed at the graduate level.*

**Assessment question(s) to be addressed in 2013-2014**

*Can the evaluation criteria be made more representative in terms of distinguishing between meeting and exceeding standards? How can these criteria account for the wide variety of projects and theses? Can the assessment process be further improved along the lines of ABET standards?*

**I-ALP. Graduate Programs**

Annual Report, 2012-2013

Department/Division: Computer Science

College: Arts and Sciences

Part I-ALP, Summary Report on Assessment, Academic Learning Plans (ALP)

Program Title<sup>a</sup>: Computer Science Degree<sup>b</sup> MS CIP Code: \_11.0101\_

<sup>a</sup>Prepare separate summary table for each degree program.

<sup>b</sup>For example, MA, MS, M.Ed., Ed.D.

- Based on **direct (required) and indirect (optional) measures** of student learning in the domain(s) your department assessed, compare your students' performance this year to their performance in previous years.
- Duplicate this section when reporting assessments for more than one domain for a given program.

Indicate the student learning outcome assessed (check one):					
	Content		Communication		Project Management
	Critical Thinking	X	Integrity/Values		Other (describe)

Describe the <b>specific student learning outcome</b> assessed in this domain:
- <i>Identify ethical issues and responsibilities with the computing profession</i>

<b>REQUIRED:</b> Describe the <b>direct measure(s)</b> used to assess student learning in this domain (e.g., answers to questions included on an exam, performance on a paper or project scored with a rubric, etc.). Include information about any additional measures used to assess learning outcomes in this domain.
<i>Integrity/Values domain was assessed by: (a) evaluating written reports and oral presentations for accounts of ethical implications of the research project/theses; and (b) application of proper citation rules as well as rules of academic honesty and conduct.</i>
If you observed changes in student performance on this measure when compared to previous years, briefly describe (in one or two sentences) the nature of these changes.
<i>The observed trend is an improvement in all domains under assessment, except for Project Management. This can be interpreted as a result of stricter requirements to reach the project/thesis stage, generally from more stringent enforcement of learning objectives earlier in the curriculum. Also, a tighter supervision of the thesis or project involved can account for a more successful outcome. These numbers actually reverse a trend that was visible over the last two periods, reestablishing the positive results of 2009-2010.</i>
<b>OPTIONAL:</b> Describe the <b>indirect measure(s)</b> used to assess student learning in this domain (e.g., answers to questions included on an exam, performance on a paper or project scored with a rubric, etc.). Include information about any additional measures used to assess learning outcomes in this domain.
<i>N/A</i>
If you observed changes in student performance on this measure when compared to previous years, briefly describe (in one or two sentences) the nature of these changes.
<i>N/A</i>
<b>Use of Assessment Data for Making Decisions.</b> Describe the process used in your department to evaluate assessment evidence and make decisions (include dates of relevant department meetings if known). Describe the decisions made to improve student learning in your program. Describe how these decisions are related to the assessment evidence collected by your department.
<i>Instructors summarize data collected from the Fall and Spring semesters, which is reported to the department. Faculty members review and evaluate the data and take appropriate actions to improve the achievement of student learning outcomes or the assessment process at the annual assessment meeting. The assessment committee summarizes the results and faculty recommendations for the departmental annual report. University, Computer Science program</i>

*review, and accreditation committees evaluate these reports.*

*No recommendations specific to this particular domain are under consideration for the next term.*

**Use of Assessment Data for Improvement of Assessment Procedures.** Describe any changes made to assessment methods. Explain the relation between these changes and the information obtained from previous assessments.

*In general, the 2012/2013 data supports the direction in which the assessment is heading; the results are back to expectations after two periods – this trend needs be monitored.*

**Describe the Department's Commitment to Assessment Activities in 2013-2014**

**Domain(s) to be examined from the department's multi-year assessment plan in 2013-2014**

*All domains will continue to be assessed at the graduate level.*

**Assessment question(s) to be addressed in 2013-2014**

*Can the evaluation criteria be made more representative in terms of distinguishing between meeting and exceeding standards? How can these criteria account for the wide variety of projects and theses? Can the assessment process be further improved along the lines of ABET standards?*

**I-ALP. Graduate Programs**

Annual Report, 2012-2013

Department/Division: Computer Science

College: Arts and Sciences

Part I-ALP, Summary Report on Assessment, Academic Learning Plans (ALP)

Program Title<sup>a</sup>: Computer Science Degree<sup>b</sup> MS CIP Code: \_11.0101\_

<sup>a</sup>Prepare separate summary table for each degree program.

<sup>b</sup>For example, MA, MS, M.Ed., Ed.D.

- Based on **direct (required) and indirect (optional) measures** of student learning in the domain(s) your department assessed, compare your students' performance this year to their performance in previous years.
- Duplicate this section when reporting assessments for more than one domain for a given program.

<b>Indicate the student learning outcome assessed (check one):</b>					
<input type="checkbox"/>	Content	<input type="checkbox"/>	Communication	<input checked="" type="checkbox"/>	Project Management
<input type="checkbox"/>	Critical Thinking	<input type="checkbox"/>	Integrity/Values	<input type="checkbox"/>	Other (describe)

Describe the <b>specific student learning outcome</b> assessed in this domain:
<ul style="list-style-type: none"> <li>- <i>Conceive, plan, organize, and execute a significant months-long project in computing</i></li> <li>- <i>Collaborate with team members where appropriate and defend results and outcomes at the end of the project timeline.</i></li> </ul>

<b>REQUIRED:</b> Describe the <b>direct measure(s)</b> used to assess student learning in this domain (e.g., answers to questions included on an exam, performance on a paper or project scored with a rubric, etc.). Include information about any additional measures used to assess learning outcomes in this domain.
<i>Project Management was assessed by: (a) written progress reports; and (b) intermediate presentations over a period of two or more semesters to ensure steady progress and remediation of encountered problems.</i>
If you observed changes in student performance on this measure when compared to previous years, briefly describe (in one or two sentences) the nature of these changes.
<i>The observed trend is an improvement in all domains under assessment, except for Project Management. This can be interpreted as a result of stricter requirements to reach the project/thesis stage, generally from more stringent enforcement of learning objectives earlier in the curriculum. Also, a tighter supervision of the thesis or project involved can account for a more successful outcome. These numbers actually reverse a trend that was visible over the last two periods, reestablishing the positive results of 2009-2010.</i>
<i>The "Exceeds" numbers for Project Management are naturally lower than for the other domains, since the requirements are easier to quantify and announce in advance.</i>
<b>OPTIONAL:</b> Describe the <b>indirect measure(s)</b> used to assess student learning in this domain (e.g., answers to questions included on an exam, performance on a paper or project scored with a rubric, etc.). Include information about any additional measures used to assess learning outcomes in this domain.
<i>N/A</i>
If you observed changes in student performance on this measure when compared to previous years, briefly describe (in one or two sentences) the nature of these changes.
<i>N/A</i>
<b>Use of Assessment Data for Making Decisions.</b> Describe the process used in your department to evaluate assessment evidence and make decisions (include dates of relevant department meetings if known). Describe the decisions made to improve student learning in your program. Describe how these decisions are related to the

Annual Report, 2012-2013

assessment evidence collected by your department.
<i>Instructors summarize data collected from the Fall and Spring semesters, which is reported to the department. Faculty members review and evaluate the data and take appropriate actions to improve the achievement of student learning outcomes or the assessment process at the annual assessment meeting. The assessment committee summarizes the results and faculty recommendations for the departmental annual report. University, Computer Science program review, and accreditation committees evaluate these reports.</i>
<i>No recommendations specific to this particular domain are under consideration for the next term.</i>
<b>Use of Assessment Data for Improvement of Assessment Procedures.</b> Describe any changes made to assessment methods. Explain the relation between these changes and the information obtained from previous assessments.
<i>In general, the 2012/2013 data supports the direction in which the assessment is heading; the results are back to expectations after two periods – this trend needs be monitored.</i>

**Describe the Department's Commitment to Assessment Activities in 2013-2014**

<b>Domain(s) to be examined from the department's multi-year assessment plan in 2013-2014</b>
<i>All domains will continue to be assessed at the graduate level.</i>
<b>Assessment question(s) to be addressed in 2013-2014</b>
<i>Can the evaluation criteria be made more representative in terms of distinguishing between meeting and exceeding standards? How can these criteria account for the wide variety of projects and theses? Can the assessment process be further improved along the lines of ABET standards?</i>

## Appendix: Graduate Program Assessment Summarized Data & Evaluation

### 2008-2009

Domain	Total n	Exceed%	Meet%	Fail%
Content	19	47.4	52.6	0
Critical Thinking	10	90.0	10.0	0
Communication	39	82.1	12.8	5.1
Integrity/Values	10	90.0	10.0	0
Project Management	10	90.0	10.0	0

### 2009-2010

Domain	Total n	Exceed%	Meet%	Fail%
Content	115	18.3	81.7	0
Critical Thinking	72	27.8	72.2	0
Communication	109	33.9	62.4	3.7
Integrity/Values	39	12.8	87.2	0
Project Management	45	26.7	73.3	0

### 2010-2011

Domain	Total n	Exceed%	Meet%	Fail%
Content	128	7.0	90.7	2.3
Critical Thinking	84	4.76	95.24	0
Communication	90	10	87.78	2.22
Integrity/Values	45	6.67	91.11	2.22
Project Management	53	7.55	92.45	0

### 2011-2012

Domain	Total n	Exceed%	Meet%	Fail%
Content	28	14.3	78.6	7.1
Critical Thinking	28	35.6	46.4	0
Communication	28	41.7	56.0	1.5
Integrity/Values	28	13.0	87.0	0
Project Management	28	45.5	54.4	0

**2012-2013**

<b>Domain</b>	<b>Total n</b>	<b>Exceed%</b>	<b>Meet%</b>	<b>Fail%</b>
Content	37	77.5	17.1	5.4
Critical Thinking	37	77.0	17.6	5.4
Communication	37	73.9	20.7	5.4
Integrity/Values	37	76.6	15.3	8.1
Project Management	37	43.2	54.1	2.7

**Appendix: Graduate Assessment Summary Worksheet**

**Student Learning Outcomes Graduate Assessment Worksheet**

**Department of Computer Science  
University of West Florida**

*If you have taught this course in both online **and** classroom sections, please fill out separate assessment worksheets for the online and for the classroom section(s).*

**Instructions:** Complete and submit one copy of this form at the end of each semester, and include data for all students who successfully completed the project or thesis that semester. Please remember to include qualitative data and recommendations in addition to the quantitative data.

1. (a) Course name and number: \_\_\_\_\_ (b) Semester: \_\_\_\_\_
2. (a) Instructor(s): \_\_\_\_\_ (b) Number of sections: \_\_\_\_\_
3. Assessment for (check all specializations that apply): \_\_\_\_\_ CS \_\_\_\_\_ DB \_\_\_\_\_ SE
4. Online/classroom: \_\_\_\_\_ Number of sections of the course:   1
5. (a) Initial course enrollment: \_\_\_\_\_ (b) Number of students who completed course: \_\_\_\_\_
6. For each student learning outcome assessed in the course, please describe how that outcome was assessed (assessment measure), and indicate for the number of students who successfully completed the course, the number and percentage of students who exceeded, met, or failed to meet expectations at the end of the course. Use the number of students who successfully completed the course (indicated in item 4(b) above) to calculate the percentages. For learning outcomes that were not assessed in this course offering, indicate N/A.

Learning outcomes listed in the first column are defined in the Computer Science Academic Learning Plan (ALP) available at [http://uwf.edu/cutla/ALP/Computer\\_Sci\\_ALP.pdf](http://uwf.edu/cutla/ALP/Computer_Sci_ALP.pdf).

<b>Student Learning Outcome</b>	<b>Assessment Measure</b>	<b>Exceeded Expectations</b>	<b>Met Expectations</b>	<b>Failed to Meet Expectations</b>
[Sample row]	Research paper	10/20 (50%)	6/20 (30%)	4/20 (20%)
Content – 1				
Content – 2				
Content – 3				
Critical thinking – 1				

Critical thinking – 2				
Communication – 1				
Communication – 2				
Integrity/values – 1				
Project management –1				
Project management–2				

6. Recommendations, if any, to improve students’ preparation for the project/thesis course, either prior to enrollment in or during the course:

7. Recommendations, if any, to improve or update student learning outcomes or assessment measures for the graduate program or project/thesis course:

---

**Instructor(s) Signature**

---

**Date**