Report:	Assessment Plan Details for: Department of Chemistry and Physics
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Workspace:	Operational Plan & Assessment Report - OPAR
Assessment Plan:	2010-11Cycle: Assessment Plan and Assessment Findings
Assessment Plan Template:	OPAR Assessment Plan
Report Generated:	Thursday, February 10, 2011

Measures and Findings

Assess Program Learning Outcomes

Improve Critical Thinking Skills

Chemistry majors will improve problem solving and analytical skills

Improve critical thinking skills for Chemistry majors

Students in B.S. & B.A. in Chemistry programs will improve problem solving and analytical skills.

Mapped to:

- USA- SACS- Comprehensive Standards (Section 3): 3.3.1.1

Measures & Findings

ACS (American Chemistry Society) Standardized Tests

Program level; Direct - Exam

Details/Description: ACS Standardized tests in CHEM 210, and CHEM 222 ia areas measuring critical thinking.

Acceptable Target: 80 % of the students will get at least 24 of 35 selected questions on the standardized test correct.

Implementation Plan (timeline): Spring, 2011

Key/Responsible Personnel: Chair, Assessment Chair

Supporting Attachments:

Program Learning Outcomes (Microsoft Word)

Tutee Information (Microsoft Excel)

Tutorials Data (Microsoft Excel)

Findings for ACS (American Chemistry Society) Standardized Tests

Summary of Findings: ttest

Acceptable Target Achievement: Not Met

Recommendations : trest

Reflections/Notes : test

Substantiating Evidence:

GRE Chemistry Subject Tests

Program level; Direct - Exam

Details/Description: GRE chemistry subject tests (GRE Problem Solving is designed to measure how well a student can narrow possible chemistry standardized questions down to two possible choices) CHEM 410 - Chemical Seminar.

Acceptable Target: 85 % of the students completing the problem solving exercise will receive a minimum of 11 out of 15 points on the problem set

Implementation Plan (timeline): Spring, 2011

Key/Responsible Personnel: Chair

Supporting Attachments:

No Findings Added to GRE Chemistry Subject Tests

Instructor Generated Final Gxams

Program level; Direct - Exam

Details/Description: Instructor generated final exams in all chemistry courses to test critical thinking.

Acceptable Target: 80% of students will

No Findings Added to Instructor Generated Final Gxams

receive 70% on the problem solving section of the final exam

Implementation Plan (timeline): Fall, 2010, and Spring , 2011

Key/Responsible Personnel: Chair, Assessment Chair

Supporting Attachments:

Stereochemistry Problem Solving Exercises

Program level; Direct - Student Artifact

Details/Description: Stereochemistry problem solving exersizes in CHEM 221 that will measure how well a student can apply what they have learned in class to assigning the proper stereochemistry assignment to a real molecule and to determine how stereochemistry affects their daily lives

Acceptable Target: 85 % of the students completing the problem solving exercises will receive a minimum of 11 out of 15 points on the problem set.

Implementation Plan (timeline): Fall, 2010 and Spring, 2011

Key/Responsible Personnel: Instructors teaching CHEM 221

Supporting Attachments:

No Findings Added to Stereochemistry Problem Solving Exercises

Improve Communication Skills

Chemistry and Fire Science majors will be able to communicate scientific results orally and in writing.

Chemistry majors will improve communication skills

BA and BS Chemistry students will improve skills to communicate scientific results in writing in lab reports for CHEM 140 and CHEM 160.

Mapped to:

- Provost and Vice Chancellor for Academic Affairs Unit Goals: 2. All academic departments will demonstrate effectiveness

Measures & Findings

Standardized Scientific Writing Rubric

Program level; Direct - Student Artifact

Details/Description: Standardized scientific writing in of CHEM 410 - Chemical Seminar and CHEM 490- Research and Ethics

Acceptable Target: 100 % of the chemistry students will be given a common lab rubric and at least 95% will follow the lab report grading rubric.

Implementation Plan (timeline): Fall, 2010 and Spring, 2011

Key/Responsible Personnel: Chair, Assessment Chair

Supporting Attachments:

No Findings Added to Standardized Scientific Writing Rubric

Standardized Technical Writing Skills

Program level; Direct - Student Artifact

Details/Description: Last year we found a lacking in lab report writing skills, especially in reasoning, writing and analysis of experimental result. Lab reports require discussion of results in conclussion.This measures argumentative lines of reasoning of results.

Acceptable Target: 95 % of the students will receive a minimum of 70 out of 100 on their lab reports in CHEM 410and CHEM 490.

Implementation Plan (timeline): Fall, 2010 and Spring, 2011

No Findings Added to Standardized Technical Writing Skills

Key/Responsible Personnel: Chair, Assessment Chair

Supporting Attachments:

Fire Science majors will improve communication skills.

Fire Science majors will improve effective writing communication skills, applying the APA research writing standards and requirements in the capstone course, FCN 422.

Mapped to:

- Provost and Vice Chancellor for Academic Affairs Unit Goals: 2. All academic departments will demonstrate effectiveness

Measures & Findings

OFSP "written Activity Rubric"

Program level; Direct - Student Artifact

No Findings Added to OFSP "written Activity Rubric"

Details/Description: Although students did well on the rubric, faculty still feels we need to increase performance in this area. We will use writing rubric to assess student communication by applying the standard OFSP 'Written Activity Rubric' to reflect each of the required elements in each section of the Formal Research Proposal (FRP) in the FSCN 422 capstone assignment.

Acceptable Target: 80% of students will score 8.00 or higher on the assignment according to the rubric.

Implementation Plan (timeline): Spring, 2011

Key/Responsible Personnel: Instructor teaching FSCN 422

Supporting Attachments:

Assignment (Adobe Acrobat Document)

Fire Science Program Outcome Assessments (Word Document (Open XML))

Assessments for Program Outcomes Assessment measures

FSCN 377 Writing Assignment 1B.pdf (Adobe Acrobat Document)

OFSP Program Level Outcomes (Microsoft Word)

Fire Science Program Learning Outcomes and Assessment Measures

Utilization of APA Citation software

Program level; Direct - Student Artifact

No Findings Added to Utilization of APA Citation software

Details/Description: Uilization of APA Citation software to the narrative (3 chapters) and the reference section of the course's Applied Fire Service Research Project

Acceptable Target: 50% increase in the initial scores in Chapter 2 Literature Review and on the Reference section of the FRP

Implementation Plan (timeline): Spring, 2011

Key/Responsible Personnel: Chair, Fire Science Program Director

Supporting Attachments:

Utilization of Turnitin.com
Program level; Direct - Student Artifact

Details/Description: The utilization of Turnitin.com in FSCN 422, the OFSP Capstone course

Acceptable Target: 50% reduction in quoting sources versus paraphrasing the material cited.

Implementation Plan (timeline): Spring, 2011

Key/Responsible Personnel: Chair, Assessment Chair

Supporting Attachments:

No Findings Added to Utilization of Turnitin.com

Improve Information Skills

Fire Science majors will improve information skills.

Fire Science majors will improve information skills

Fire Science majors will develop effective writing communication skills, applying the APA research writing standards and requirements in the capstone course
FSCN 422.

Mapped to:

- Provost and Vice Chancellor for Academic Affairs Unit Goals: 2. All academic departments will demonstrate effectiveness

Measures & Findings

Improve Utilization of Library Resources
Program level; Direct - Student Artifact

Details/Description: The OFSP has initiated a project with the FSU Library to better incorporate the utilization of the library's resources. We are planning on archiving a collection of the NC Executive Fire Officer's Applied Research Projects (from the National Fire Academy) as .pdf research resources.

Acceptable Target: A 40% increase in the utilization of refereed/valid research resources incorporated into the FSCN 422 FRP Chapter 2.

Implementation Plan (timeline): Spring, 2011

Key/Responsible Personnel: Chair, Fire Science Program Director

Supporting Attachments:

Fire Science Program Outcomes (Word Document (Open XML))

Program Outcomes (Word Document (Open XML))

Mid-Year Findings

No Findings Added to Improve Utilization of Library Resources

Incorporating Citation Analysis
Program level; Direct - Student Artifact

Details/Description: Incorporating assignments that require the FSCN 422 students to analyze a variety of citable sources and determine whether, or not, the sources should be considered refereed or non-refereed.

Acceptable Target: 95% of the student participants in FSCN 422 will receive a grade of 'B' or higher on this assignment.

Implementation Plan (timeline): Spring, 2011

Key/Responsible Personnel: Chair, Assessment Chair

Supporting Attachments:

No Findings Added to Incorporating Citation Analysis

Department of Chemistry and Physics Unit Goals

Retention

The Department of Chemistry and Physics will increase retention rate

Retention Outcome

At least 80% of undergraduate and graduate students enrolled in fall 2009 will re-enroll in fall 2010 from 77.7% (undergraduate) and 80% (graduate) by increasing tutorial services and implementing assessment plans

Mapped to:

- FSU Strategic Priorities, Initiatives, and Indicators: 1.1.5.

Measures & Findings

80% Retention

Program level

Details/Description: One year retention rates from each degree program in the Department of Chemistry and Physics will be at or above 80%.
We will 1) determine the number of academic support services available for chemistry and physics courses at all levels and keep better track of the academic progress of troubled chemistry and physic students at all levels. 2) Develop a list of programs that offer tutoring service for students in the Department of Chemistry and Physics. 3) Develop a list of the number of students that obtain tutoring from the instructors and the final academic outcome of the students. 4) Compile information the involves the reason why our chemistry and physics students leave from the student exit survey in order to determine if there is something better that we can a department do to increase the retention rate. These outcomes will be assessed by a documentation evidence of the number of programs that offer academic support services for our students along with determination of how successful faculty office hour assistance for students are. The criteria for success of this outcome would be the compilation of data on the reasons why our students are not successful in completing our majors and the development of ideas to address this problem.

Acceptable Target: 80%

Implementation Plan (timeline): 2010-2011

Key/Responsible Personnel: Chair, Assistant Chair, Faculty

Supporting Attachments:

Retention Data (Excel Workbook (Open XML))

No Findings Added to 80% Retention

One-Year retention rates for Chem. & Phys as provided by FSU Institutional Research

Other level; Indirect - Survey

Details/Description: The one-year retention rates for undergraduate students in each program in the Department of Chemistry and Physics will be at or above 80%.

Acceptable Target: 80%

Implementation Plan (timeline): 2010-2011

Key/Responsible Personnel: Chair, Assistant Chair, Faculty Advisors

No Findings Added to One-Year retention rates for Chem. & Phys as provided by FSU Institutional Research

Supporting Attachments:

Advisement

The Department of Chemistry and Physics will improve student services satisfaction

Student satisfaction Outcome

The Department of Chemistry and Physics will score at or above 90% on the Student Satsifaction survey in reference to satisfaction with academic advising

Mapped to:

- FSU Strategic Priorities, Initiatives, and Indicators: 1.5.1., 1.5.2.

Measures & Findings

Improve Student Satisfaction with Advising in each Program in the Department of Chemistry and Physic
Program level; Indirect - Survey

Details/Description: Increase the student survey satisfaction with advising score to 90% in each program in the Department of Chemistry and Physics.

Acceptable Target: 90%

Implementation Plan (timeline): 2010-011

Key/Responsible Personnel: Chair, Assistant Chair, Faculty Advisors

Supporting Attachments:

Advisement Data (Microsoft Excel)

No Findings Added to Improve Student Satisfaction with Advising in each Program in the Department of Chemistry and Physic

Increase Student Satisfaction Survey Scores in each program to 90%
Program level; Indirect - Other

Details/Description: Increase the student survey satisfaction with advising score to 90% in each program in the Department of Chemistry and Physics

Acceptable Target: 90%

Implementation Plan (timeline): 2010-2011

Key/Responsible Personnel: Chair, Assistant Chair, Faculty Advisors

Supporting Attachments:

No Findings Added to Increase Student Satisfaction Survey Scores in each program to 90%

Grants Submitted

The Department of Chemistry and Physics will increase number of grants submitted.

Grants Submitted

The Department of Chemistry and Physics will submit 12 grant proposals in 2010-2011 academic year.

Mapped to:

- FSU Strategic Priorities, Initiatives, and Indicators: 6.2.0.

Measures & Findings

Data from Sponsored Research Office
Institution level; Direct - Other

Details/Description: Data will be obtained from Sponsored Research Office on the number of grant proposals submitted by the Department of Chemistry and Physics. The number of grant proposals from Department of Chemistry and Physics will increase to 12 in 2010-2011.

Acceptable Target: 12 grant proposals submitted

Implementation Plan (timeline): 2010-2011

Key/Responsible Personnel: Chair and Assistant Chair

Supporting Attachments:

No Findings Added to Data from Sponsored Research Office

Grants Submitted (Adobe Acrobat Document)

Increase Grant Funding

The Department of Chemistry and Physics will increase grant funding to suport faculty and student instruction and research activities

Secure grant funding to at least $300,000

Increase external grant funding by submitting at least 12 grant proposals to external agencies with a total sought of at least $800,000

Mapped to:

- FSU Strategic Priorities, Initiatives, and Indicators: 6.2.0.

Measures & Findings

No measures specified

Fire Science Program

Communication Skills

Fire Science majors will develop effective writing communication skills, applying APA research writing standards and requirements.

Utilization of Turnitin.com

The utilization of Turnitin.com in FSCN 422 the OFSP Capstone course

Mapped to:

No Mapping

Measures & Findings

No measures specified

Utilization of APACitation software

The utilization of APA Citation software to the narrative (3 chapters) and the reference section of the course's Applied Fire Service Research Project

Mapped to:

No Mapping

Measures & Findings

No measures specified

Revised Written Activity Rubric

Revise and customize the standard OFSP 'Written Activity Rubric' to reflect each of the required elements in each section of the Formal Research Proposal (FRP) in the FSCN 422 capstone assignment.

Mapped to:

No Mapping

Measures & Findings

No measures specified

Information Skills

Fire Sceince majors will have the knowledge, skills and abilities to obtain a variety of sources and to determine valid sources from potentially invalid resources in their professional work.

Utilization of FSU library resources

The OFSP has initiated a project with the FSU Library to better incorporate the utilization of the library resources. We are planning on archiving a collection of the NC Executive Fire Officer Applied Research Projects (from the National Fire Academy) as .pdf research resources.

Mapped to:

No Mapping

Measures & Findings

No measures specified

Citation Analysis

Incorporating assignments that require the FSCN 422 students to analyze a variety of citable sources and determine whether, or not, the sources should be considered refereed or non-refereed.

Mapped to:

No Mapping

Measures & Findings

No measures specified