

Brief Summary of Evidence Documenting Excellence in Teaching

Criteria	Documented Evidence
Criteria for Satisfactory Rating	
a. Commitment to assigned classes, e.g. thoroughness of class preparation, careful and objective grading, and timely return of tests and papers.	<ul style="list-style-type: none"> • Course load consistently at/above departmental target • Course evaluations on elements that indicate commitment have been trending upward • Student comments from course evaluations indicate satisfaction with commitment and preparation • Engagement in "hacking sessions" since 2010
b. Course organization, e.g. clearly defined course objectives; course content, syllabi, handouts, readings and/or textbook consistent with the course description; and course level and rigor consistent with student abilities and ISAT practice.	<ul style="list-style-type: none"> • Effective course syllabi and schedules that honor individual learning paths are presented • Course evaluations for questions that address organization show positive trends • Student comments from course evaluations indicate satisfaction with course organization and content • A strongly positive student response to my unique organizational approach is becoming evident (see Teaching §2.A, Strong Evaluations)
c. Clear and effective communication with appropriate use of teaching resources.	<ul style="list-style-type: none"> • Examples of teaching materials are provided • Course evaluations on questions that reflect communication have been consistently high • Student comments indicate broad satisfaction with communication ability and teaching resources
d. Mastery of the subject matter.	<ul style="list-style-type: none"> • 15 years of professional experience as a scientific systems analyst, technology manager, and quality manager • High level of scholarship in quality management and astronomical software & instrumentation fields demonstrated through publication and presentation record • Professional certifications maintained (ASQ Six Sigma Black Belt #11952 since 2011; ASQ Certified Manager of Quality and Organizational Excellence #9583 since 2005) • Routinely engaged as subject matter expert by multiple National Science Foundation (NSF) directorates
e. Acceptable student evaluations of classes over the period of review.	<ul style="list-style-type: none"> • Overall course evaluation scores have been consistently around 4.3
f. Commitment to effective student advising when assigned duties as an adviser.	<ul style="list-style-type: none"> • Supervised a total of 23 students on ISAT senior capstone projects at JMU • Co-supervised an additional 4 students on ISAT senior capstone projects at JMU • Served on thesis committee for 2 MS ISAT graduates; currently serving on committees for 1 MS ISAT and 1 MS SERM student • Supervised 7 independent studies at JMU

	<ul style="list-style-type: none"> • Supervised 4 undergraduates as part of NRAO NSF Research Experiences for Undergraduates (REU) program • Supervised 1 undergraduate and 1 graduate student as part of NRAO Co-op program
g. Positive attitude toward students, as shown by availability outside of class, assistance with student professional development, and jobs/ graduate school placement.	<ul style="list-style-type: none"> • Course evaluations on questions that reflect positive attitude have been consistently high • Student comments indicate broad satisfaction with attitude and availability, especially my willingness to answer text messages at all times of day • Wrote letters of recommendation for successful graduate school applications for 1 CS and 2 ISAT students; wrote several online letters of recommendation for student job placements since 2010
h. Personal leadership demonstrated through self-initiative and follow-through with instructional tasks.	<ul style="list-style-type: none"> • Revitalized course content for ISAT 344 (Intelligent Systems) and ISAT 341 (Simulation & Modeling) • Incorporated service-learning into HON 300/ ISAT 680 and GISAT 251
i. Participation as a valued team member in team teaching, curriculum development, or instructional improvement activities.	<ul style="list-style-type: none"> • Team-taught 4 discussion sections of ISAT 131, 2 semesters of ISAT 640/IES 5005 for SERM with ISAT faculty • Team-taught 2 semesters of ISAT 680/HON 300 with College of Business; course has been adapted for MBA program
Criteria for Excellent Rating	
a. Strongly positive student response to teaching, e.g. student-sponsored teaching awards, consistently above average student evaluations, or unusually positive alumni comments.	<ul style="list-style-type: none"> • Recent course evaluations show scores on most questions are above departmental means • Student comments indicate strong satisfaction with my teaching approach and style • Featured in the JMU Yearbook for strongly positive student response to GSCI courses
b. Peer recognition of teaching ability and commitment to teaching, e.g. JMU or externally sponsored teaching awards or exceptionally positive reports of peer observation of teaching.	<ul style="list-style-type: none"> • Letters of support reflect dedication to effective teaching and course development • ASQ Fellow citation recognizes "outstanding and innovative cross-disciplinary contributions to teaching and research in quality"
c. Evidence of instructional vitality, e.g. developing new courses, methods and materials; innovations in course content or methodology; and use of a variety of teaching methods.	<ul style="list-style-type: none"> • Developed an experimental version of ISAT 252 for IA majors, using data science as a "gateway drug" to learn programming • Developed 1 new general education course (GSCI 104, Severe Weather on Earth and in Space), <i>delivered 4 times</i> • Developed 1 new service-learning based honors seminar which also served as an MS ISAT elective (HON 300/ISAT 680, Quality and Process Improvement in Action), <i>delivered 2 times and adapted for MBA program</i>

	<ul style="list-style-type: none"> • Completely revitalized content and exercises to modernize ISAT/CS 344 (Intelligent Systems) • Significantly revitalized content and exercises for ISAT 341 (Simulation & Modeling) to include Monte Carlo, Agent-Based Modeling, and Numerical Weather Prediction
d. Leadership in non-traditional learning experiences and activities, e.g. honors research, independent study, class projects, field teaching, etc.	<ul style="list-style-type: none"> • Team taught 2 honors seminars (HON 300/ ISAT 680) • Led 7 independent studies at JMU • Participated in JMU Center for Instructional Technology (CIT) Institute for Blended Learning and integrated lessons into course revisions for GISAT 251 and GSCI 161/162
e. Quality teaching in a variety of learning contexts, e.g., special lectures, seminars, special studies, discussion groups, etc.	<ul style="list-style-type: none"> • Use traditional teaching styles (lecture, discussion, projects) and non-traditional (service learning, online, blended, microcurriculum/path-based) • Led 2 professional workshops, one at JMU CFI and one at Burning Man Headquarters in San Francisco • Conducted 2 workshops for junior high school girls through the Expanding Your Horizons (EYH) program run by the JMU Math Department in 2012 and 2013
f. Breadth in teaching expertise, e.g. the ability to teach a variety of subject areas, at the upper and lower levels, or courses for non-majors.	<ul style="list-style-type: none"> • Teach 1 lower-level general education course developed by me (GSCI 104) • Teach 2 lower-level general education courses for IdLS (GSCI 161/162) • Teach 2 foundations courses for ISAT • Teach 2 upper-level ISAT courses • Team teach 1 MS SERM course • Have taught 1 combined honors seminar/MS ISAT course (HON 300/ISAT 680) • Have taught 2 graduate level MS ISAT courses (ISAT 654 & 655)
g. Publication of book chapters, textbooks, or teaching materials.	<ul style="list-style-type: none"> • Published 8 book chapters, 3 since arriving at JMU in 2009 • Published 30 chapter Test Bank for Macmillan/W.H. Freeman <i>Statistics in Practice</i> • Edited 4 chapters of <i>Statistics in Practice</i>
h. Presentations and publications on innovations in course content and teaching methodology.	<ul style="list-style-type: none"> • Prepared 5 conference presentations & proceedings about innovation in technology education since 2011 • Presented 1 talk as invited speaker on adapting technology pedagogy to management • Co-led 2 workshops on innovative pedagogy
i. Professional development through: Participation in workshops, conferences or similar activities devoted primarily to improving teaching methods and course	<ul style="list-style-type: none"> • Participated in 2 conferences where teaching methods and course content were primary themes (CSEET Software Engineering Education in 2010; Agile Alliance 2011) • Co-chaired day-long "Transforming Learning"

<p>content; Participating in regional and national pedagogical organizations.</p>	<p>conference at Burning Man 2013</p> <ul style="list-style-type: none"> • Active engagement in Black Rock Educators Consortium (BREC), dedicated to exploring innovative cross-disciplinary pedagogy
<p>j. Leadership in teamwork, e.g. generating a spirit of teaming, building team consensus or capabilities, initiating teams that effectively address ISAT curriculum needs.</p>	<ul style="list-style-type: none"> • Served as IKM team lead in 2011 and 2012 • Created strategy for presenting BS ISAT continuous improvement activities; conducted interviews to gather evidence for ABET Self-Study and presented our continuous improvement case • Advised student group for ISAT 344 (Intelligent Systems) that mined Recruit-a-Duke to determine which technology skills were most valuable in ISAT curriculum
<p>k. Instructional leadership, e.g., the ability to initiate and execute constructive change in an ISAT, JMU, or external curriculum.</p>	<ul style="list-style-type: none"> • The HON 300/ISAT 680 course I co-developed was adapted and offered as an MBA course in Spring 2014 by the College of Business. • Advisor to development of ASQ Body of Knowledge on Social Responsibility, which will inform future course development and certification programs
<p>l. Demonstrated instructional accomplishments that the PAC deems exceptional.</p>	<ul style="list-style-type: none"> • Preliminary work completed, supported by JMU SAGE grant, to plan a Study Abroad Program to Iceland to deliver Cluster Three Gen Ed courses (filling a gap in OIP ability to deliver science and technology courses abroad) • I am also dedicated to supporting STEM Education & Public Outreach (EPO) for science organizations and national laboratories to support developing the student pipeline as well as to support lifelong learning; for example, I support the Black Rock Astronomical Society (BRAS) and Black Rock Observatory (BRO) as a lecturer and telescope guardian, helping students of all ages to appreciate optical, radio, and solar telescopes