

Brief Summary of Evidence Documenting Excellence in Teaching

| Criteria | Documented Evidence |
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| 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 |

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| | <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> |

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| | <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" |

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| <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 |