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Career Development, Employability and Entrepreneurship Academic Action Plan for Science

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Overview

Whole-of-course scaffolding

» **Students reflect on current skills, knowledge and attitudes to manage their professional learning needs and performance, autonomously and in collaboration with others (CLO10)**

The e-Portfolio is the centre-point for learning, reflection and communication activities. It is a tool to develop students' interpersonal, metacognitive and cognitive capabilities, and a place for students to record their career development journey.

- Students use the e-Portfolio to reflect and self-evaluate; complete learning activities and assessment tasks; collaborate and peer-review; collate and organise artefacts of best practice; tag artefacts using key words (e.g. teamwork, digital literacy, presentation skills, networking); and reference artefacts to Course/Subject Learning Outcomes (e.g. CLO 7: Convey scientific ideas, arguments and conclusions clearly and coherently through well-developed written and oral communication skills and a variety of media).
- Staff use the e-Portfolio to build a repository of learning and teaching assets; and collaborate with staff and students within the platform.

	First Year	Middle Year	Final Year
Rationale	<ul style="list-style-type: none"> • Students are exposed to career possibilities and develop a strong sense of purpose and self 	<ul style="list-style-type: none"> • Students engage with industry/employers and develop vocational skills and knowledge 	<ul style="list-style-type: none"> • Students plan and prepare for professional transitions
e-Portfolio	<ul style="list-style-type: none"> • Students learn how to use PebblePadv5 • Students initiate a professional e-Portfolio that they will develop across the degree 	<ul style="list-style-type: none"> • Students continue to build their e-Portfolio • Students record workplace experiences, track progress, collect and store artefacts as evidence, reflect and evaluate their performance and development 	<ul style="list-style-type: none"> • Students extend their use of e-Portfolio to self-market • Students use artefacts and reflections to apply for a job
Learning summary	<p>By the end of Year 1, students will have:</p> <ul style="list-style-type: none"> • Explored careers and aspirations • Identified and developed generic skills, knowledge, attributes and dispositions to reflect on employability capabilities for the future world of work • Built an e-Portfolio • Established SMART goals and a career action plan • Created a resume, cover letter and LinkedIn profile • Watched Final Year student presentations 	<p>By the end of the Middle Year, students will have:</p> <ul style="list-style-type: none"> • Established networks with employers and industry and developed knowledge of employment opportunities in chosen field(s) • Reflected on developing generic skills, knowledge, attributes and dispositions in their e-Portfolio • Reviewed career action plan and LinkedIn profile • Sourced discipline-specific job advertisement to produce a tailored resume and cover letter • Created field/laboratory experience videos • Undertaken peer reviews of LinkedIn profiles and field/laboratory experience videos 	<p>Mid-way through Final Year, students will be job ready and encouraged by staff to apply for graduate positions</p> <p>By the end of the Final Year, graduates will have:</p> <ul style="list-style-type: none"> • Applied for a job • Marketed themselves with confidence • Awareness of self, including values, disposition, capabilities and limitations • Communicated generic skills, knowledge, attributes and dispositions to a diverse range of stakeholders • Undertaken rigorous peer reviews of Work Integrated Learning (WIL) experience videos/PowerPoints • Presented to First Year students and/or external stakeholders

	First Year	Middle Year	Final Year
Assessment tasks (2018 onwards)	<ol style="list-style-type: none"> 1. LinkedIn profile (SC1102/SC1109) 2. 'My aspirations in a minute' video (SC1101) 3. Resume and cover letter (SC1101) 	<ol style="list-style-type: none"> 1. LinkedIn profile and peer review of LinkedIn profiles 2. Industry/job-specific resume and cover letter 3. Field/laboratory experience video and peer review of videos <p>(Each of the above tasks are embedded in the Major Core subjects: AQ2001, MB2050, BZ2490, BC2023, CH2101, EA2006, MA2100, PH2002)</p>	<ol style="list-style-type: none"> 1. Job Application (includes LinkedIn profile, with at least two external recommendations; resume; cover letter; response to selection criteria and interview) (SC3008) 2. WIL experience video/PowerPoint and peer review of WIL experience videos/PowerPoints (SC3008) 3. Capstone experience presentation (includes 'tour' of e-Portfolio and revision of 'My aspirations in a minute' video) (SC3010) 4. Final e-Portfolio (Major Core Subjects – AQ3015, MB3050, BZ3220, BZ3225, BC2023, CH2101, EA2006, MA2100, PH2002)

List of employability capabilities

* Science-specific capabilities/certifications +Only if relevant and/or advantageous for chosen career	^ Generic capabilities
<ul style="list-style-type: none"> • Manual drivers licence+ • 4WD certification+ • Boat Licence+ • First aid certification • Laboratory skills • Field-based skills • Research skills • Computer software skills, e.g. GIS • Statistical and analytical skills and software 	<ul style="list-style-type: none"> • Entrepreneurial skills • Innovation skills and capacity to create • Teamwork and team building skills: reflecting on the expertise that they bring to a multidisciplinary team • Analytical and critical thinking skills: analytics, data manipulation, data mining, graphing and presenting data, data visualisation • Problem solving skills • Communication skills • Presentation skills • Digital literacy skills

Subject-specific detail by year level

First Year

Science Understanding

» SC1101

Learning and Teaching Activity	Resources
Showcase 1 x BSc. graduate profile <i>OR</i> science job advertisement per week	1. Exemplar 1_Dr Kate Hutson.doc 2. Profiles of the week.pptx
Present 'The Future of Science – work-skills you will need' Emphasise the importance of employability skills, knowledge, attitudes and dispositions	3. The Future of Science – work-skills you will need.pptx
Post link to 'Careers in Science' on LearnJCU	4. Careers in Science (PebblePad)
Post links to JCU student services on LearnJCU	5. JCU Careers and Employment 'Students' webpage 6. GetReady4Uni 7. JCU Learning Centre 8. JCU Careers Fair
Present 'BSc. CLOs and employability' Students map CLOs to employability capabilities	9. BSc CLOs and employability.pdf 10. CLO mapping exercise.doc
Present 'Effective use of e-Portfolio'	11. Effective use of e-Portfolio.pptx 12. Pebble+ v5 information
Students complete self-directed study: JCU Career Development Program modules	13. Defining My Opportunities module 14. e-Portfolio Basics module 15. Resumes and Cover Letters module
Distribute 'Career Action Plan: Take charge of your career in Science!'	16. Career Action Plan: Take charge of your career in Science!
Present 'Enhancing self-awareness to achieve success' Students complete activity sheet (character strengths, SMART career goals, career plan)	17. Enhancing self-awareness to achieve success.pptx 18. Enhancing self-awareness to achieve success.doc
Students complete assessment tasks: My aspirations in a minute; Resume and cover letter (listed below under 'Assessment')	
Coordinate with SC3008 staff for Final Year Professional Placement students to present on the WIL experience	
Assessment	Resources
My aspirations in a minute Resume and cover letter	19. My aspirations in a minute Assessment.doc 20. Writing an effective resume.pptx 21. Example resume.doc 22. Resume and cover letter Assessment.doc

Modelling Natural Systems

» SC1102/SC1109

Learning and Teaching Activity	Resources
Showcase 1 x STEM job that requires mathematical skills and knowledge per week	1. Math in STEM jobs (PebblePad; includes videos)
Required self-directed study: JCU Career Development Program modules	2. Networking module 3. Marketing Myself module
Present 'Managing a professional online identity' Lead by example: show your online presence (LinkedIn profile and google your name) Students complete assessment tasks: LinkedIn profile (listed below under 'Assessment')	4. Managing a professional online identity.pptx 5. LinkedIn
Promote National Science Week (August) Organise Science Week events in partnership with student volunteers	6. National Science Week website
Encourage students to connect with industry/employers, volunteer, and network at industry/employer events both on and off campus	
Post links to JCU resources on LearnJCU (JCU CareerHub is where internal and external part-time, casual, vacation and volunteer opportunities are advertised)	7. JCU Careers and Employment 'Resources' webpage 8. JCU CareerHub
Students explore STEM Careers by completing a WebQuest	9. STEM Careers WebQuest.doc
Post STEM-specific job search engines on LearnJCU	10. MathsAdds Career Guide website 11. Maths: Make Your Career Count website 12. Careers with STEM website 13. O-Net Online website
Coordinate with SC3010 staff for Final Year Wicked Problems in Science students to present on their capstone experiences	
Assessment	Resources
LinkedIn profile (Organise for a student photographer to take a professional photo of each student for LinkedIn)	14. LinkedIn profile Assessment.doc (Have a few outfits available for students without suitable professional attire)

Major Core and Breadth Subjects

» BS1007, BS1001, BZ1006, BZ1005, BM1000, CH1001/CH1011, CH1002, EV1005, EA1110, MA1000, MA1003, PH1005, PH1007, CP1404, BS1001/BZ100, BS1007

Learning and Teaching Activity	Resources
Present 1 x discipline-specific job advertisement per week	<ol style="list-style-type: none"> 1. Exemplar 1_Dr Kate Hutson.doc 2. Job of the week.pptx
Post generic and discipline-specific job search websites on LearnJCU	<ol style="list-style-type: none"> 3. JCU CareerHub 4. SEEK 5. CareerOne 6. Jobsearch 7. Indeed 8. jobactive 9. Australian Public Service 10. Queensland Government 11. Graduate Careers 12. MyFuture 13. JobOutlook
Showcase 1 x discipline-specific graduate profile OR science job advertisement per week	<ol style="list-style-type: none"> 14. Profiles of the week.pptx
Students complete self-directed study: JCU Career Development Program modules	<ol style="list-style-type: none"> 15. Self-Understanding 1 module 16. Self-Understanding 2 module
<p>Students deconstruct job advertisements sourced online</p> <p>Students search for evidence of employability skills, knowledge, attributes and dispositions in these advertisements</p> <p>Students map job advertisement to CLOs/SLOs</p>	<ol style="list-style-type: none"> 17. Job advertisement deconstruction.doc
Students reflect on current 'work readiness' and self-evaluate	<ol style="list-style-type: none"> 18. Work Ready self-evaluation.doc
Assessment	Resources
None	

Middle Year

Quantitative Methods in Science

» SC2202/SC2209

Learning and Teaching Activity	Resources
Present 1 x amazing math job profile per week	1. Amazing math jobs (PebblePad)
Post link to 'Careers in Science' on LearnJCU (students will be familiar with this resource from SC1101)	2. Careers in Science (PebblePad)
Post links to JCU student services on LearnJCU	3. JCU Careers and Employment 'Students' webpage 4. JCU Learning Centre
Encourage students to connect with industry/employers, volunteer, and network at industry/employer events both on and off campus	5. JCU Careers Fair
Recommend students join professional associations/organisations as student members (links are provided in 'Careers in Science')	6. Careers in Science (PebblePad)
Post generic job search websites on LearnJCU	7. JCU CareerHub 8. SEEK 9. CareerOne 10. Jobsearch 11. Indeed 12. jobactive 13. Australian Public Service 14. Queensland Government 15. Graduate Careers 16. MyFuture 17. JobOutlook
Post discipline-specific job search websites on LearnJCU	18. MathsAdds Career Guide website 19. Maths: Make Your Career Count website 20. Careers with STEM website 21. O-Net Online website
Highlight subject-specific LinkedIn groups, channels and influencers (utilise Twitter, YouTube, LinkedIn, Facebook, blogs) Encourage students to 'join'/'follow' leaders in their fields of interest and contribute to online discussions	
Lead by example: ask students to review your LinkedIn profile (rate or comment on its quality and effectiveness) and provide constructive feedback in a dedicated Discussion Board thread	
Students design a WebQuest that leads a target user through an online exploration of jobs that require skills and knowledge in code and coding Students test the functionality of their Webquests using self-assessment and peer review processes, providing constructive feedback	7. WebQuest activity.doc
Assessment	Resources
None	

Major Core Subjects

» AQ2001, MB2050, BZ2490, BC2023, CH2101, EA2006, MA2100, PH2002

Learning and Teaching Activity	Resources
<p>Invite industry/government/employer/alumni contacts to lectures that relate directly or indirectly to their work</p> <p>Prompt students to ask questions</p> <p>Provide guidance to the guest speaker: share a typical day's work, career experiences, tips for career success, discipline-specific career advice</p> <p>Provide speakers with information about the subject (Learning Outcomes, Assessments) to help them to relate their work to the subject</p> <p>Summarise key points in class or post a summary on LearnJCU</p>	
<p>Invite a current PhD student to share their research and demystify the post-graduate experience</p> <p>Facilitate discussions about the pathway to further study and tips for undergraduate success</p>	
<p>Encourage students to engage with professional online networks (Facebook, LinkedIn, Twitter, blogs, YouTube, TED, etc.)</p>	
<p>Lead by example: show your online presence (LinkedIn profile and google your name)</p> <p>Ask students to give you on the spot feedback</p> <p>Students complete assessment task 1: LinkedIn profile and review of a professional/peer's LinkedIn profile (listed below under 'Assessment')</p>	
<p>Recommend students join discipline-specific professional associations/organisations as student members</p>	
<p>Remind students to access the 'Careers in Science' Collection in PebblePad</p>	<p>1. Careers in Science (PebblePad)</p>
<p>Recommend volunteering, cadetships, cooperatives, internships and/or vacation work programs both locally and overseas</p>	<p>2. JCU CareerHub</p> <p>3. GoinGlobal</p>
<p>Students complete self-directed study: JCU Career Development Program modules</p>	<p>4. Maximising an e-Portfolio module</p> <p>5. Self-Understanding 3 module</p> <p>6. Seeking Work Placement Opportunities module</p> <p>7. Applications for Work Placements module</p> <p>8. Thriving in a Workplace module</p>
<p>Upload Career Resource Guide to LearnJCU</p>	<p>9. Dr Ian McLeod's Career Resource Guide.pdf</p>
<p>Post links to other JCU student services on LearnJCU</p>	<p>10. JCU Careers and Employment 'Students' webpage</p> <p>11. Big Interview</p> <p>12. Epigeum: skills and attributes for careers success and developing an entrepreneurial mindset (not yet available)</p>
<p>Establish Discussion Board thread for students to share field or laboratory experiences; other career insights; and/or strategies for networking</p>	
<p>Students complete a Career Action Plan for Middle Years</p>	<p>Career Action Plan: Take charge of your career in Science!</p>

<p>Students bring a discipline-specific job advertisement (position description and selection criteria) to class</p> <p>In groups, discuss the requirements of the jobs advertised, including skills, knowledge, attitudes and dispositions</p> <p>Students complete assessment task 2: Industry/job-specific resume and cover letter (listed below under 'Assessment')</p>	
<p>Students record, reflect on, and self-evaluate their field/laboratory experiences in their e-Portfolio</p> <p>Students complete assessment task 3: Field/laboratory experience video and peer review (listed below under 'Assessment')</p>	
<p>Assessment</p>	<p>Resources</p>
<p>Task 1: LinkedIn profile and review of a professional/peer's LinkedIn profile</p> <p>Task 2: Industry/job-specific resume and cover letter</p> <p>Task 3: Field/laboratory experience video and peer review</p>	<p>13. Work Ready Assessment.doc</p>

Optional Core Subjects

» BS2470, MI2031, BS2460, BZ2820, BZ2880, BC2013, BC2024, CH2102, CH2103, EV2401, EA2220, MA2201, MA2000, PH2019, PH2240

Learning and Teaching Activity	Resources
<p>Highlight subject-specific LinkedIn groups, channels and influencers (utilise Twitter, YouTube, LinkedIn, Facebook, blogs)</p> <p>Encourage students to 'join'/'follow' leaders in their fields of interest and contribute to online discussions</p>	
<p>Lead by example: show your online presence (LinkedIn profile and google your name)</p> <p>Ask students to give you on the spot feedback</p>	
<p>Profile a discipline-specific job or job advertisement each week (YouTube is a powerful tool);</p> <p>AND/OR</p> <p>Invite employers/graduates to be guest speakers</p> <p>Provide guidance to the guest speaker: share a typical day's work, career experiences, tips for career success, discipline-specific career advice</p> <p>Provide speakers with information about the subject (Learning Outcomes, Assessments) to help them to relate their work to the subject</p>	
<p>Students complete self-directed study: JCU Career Development Program modules</p> <p>Allocate 5-10 minutes of class time for students to discuss the modules AND/OR establish Discussion Board threads for each module</p>	<ol style="list-style-type: none"> 1. Managing Stress and Pressures module 2. Life Balance module
<p>Provide links on LearnJCU to:</p> <ul style="list-style-type: none"> • Discipline-specific industry/employer/government websites • LinkedIn profiles of sector leaders • Professional associations and organisations • Career-related generic and discipline-specific artefacts (e.g. research articles, real world stories, YouTube videos) 	
Assessment	Resources
<p>None</p>	

Optional Skills Subjects

» EV2502, MA2201, CH2103, CP2404, PH2222

Learning and Teaching Activity	Resources
Present 'Maximising your employability'	1. Maximising your employability.pptx
<p>Invite an employer/alumnus to describe what they look for when hiring graduates</p> <p>Ask guest speaker if they have resources to support learning/professional development that you could post on LearnJCU</p> <p>Summarise the speaker's main points and encourage discussions on LearnJCU</p>	
Students complete 'Job investigation activity.doc' to examine subject-specific job advertisements and identify the skills, knowledge, attributes and dispositions required. Emphasise the importance of discipline-specific <i>and</i> generic skills and knowledge for work	2. Job investigation activity.doc
<p>Highlight subject-specific LinkedIn groups, channels and influencers (utilise Twitter, YouTube, LinkedIn, Facebook, blogs)</p> <p>Encourage students to 'join'/'follow' leaders in their fields of interest and contribute to online discussions</p>	
Profile a discipline-specific job or job advertisement each week (YouTube is a powerful tool)	
<p>Provide links on LearnJCU to:</p> <ul style="list-style-type: none"> • Discipline-specific industry/employer/government websites • LinkedIn profiles of sector leaders • Professional associations and organisations • Career-related generic and discipline-specific artefacts (e.g. research articles, real world stories, YouTube videos) 	
Establish a Discussion Board thread for students to share and discuss career/work-related information and topics	
Assessment	Resources
None	

Final Year

Professional Placement

» SC3008

Learning and Teaching Activity	Resources
Connect with industry/employers Build and maintain a WIL placement opportunities database	
Subscribe to career-related professional networks	
Post links to student services on LearnJCU	<ol style="list-style-type: none"> 1. JCU Careers and Employment 'Students' webpage 2. Big Interview 3. Epigeum: skills and attributes for careers success and developing an entrepreneurial mindset (not yet available)
Ensure that students know what to expect in regard to all aspects of working in a workplace	
Students complete self-directed study: JCU Career Development Program modules	<ol style="list-style-type: none"> 4. Selection Criteria module 5. Interviews module
Students complete a Career Action Plan for Final Year	6. Career Action Plan: Take charge of your career in Science!
Students complete assessment task 1: Job Application (listed below under 'Assessment')	
Demonstrate an interview scenario with student volunteer(s) – contact JCU Careers Councillors to assist if required Analyse and discuss effective interview responses and behaviours Generate a list of tips specific for Science graduates and post list on LearnJCU Emphasise the importance of being able to articulate both discipline-specific and generic skills and knowledge to employers	
Students practice at least two interviews using Big Interview and reflect in their e-Portfolio	
Establish a Discussion Board thread for students to discuss the interview process	
Students reflect on their WIL experiences in their e-Portfolio Establish a Discussion Board thread for students to discuss their WIL experiences and videos/PowerPoints Students complete assessment task 2: WIL experience video/PowerPoint and peer review (listed below under 'Assessment')	
Organise for a selection of students to present to First Year students (Modelling Natural Systems - SC1102/SC1109) and/or invite the employers on campus to watch the students present	
Ask students to keep in touch so they may be included in the BSc. alumni database (contact details, work history...)	
Assessment	Resources
Task 1: Job Application (task includes LinkedIn profile, with at least two external recommendations, resume, cover letter, response to selection criteria and interview) Task 2: WIL experience video/PowerPoint and peer review	<ol style="list-style-type: none"> 7. Job Application Assessment.doc 8. WIL experience Assessment.doc

Wicked Problems in Science

» SC3010

Learning and Teaching Activity	Resources
Students reflect at least once per week in their e-Portfolio	
Establish a Discussion Board thread for students to discuss their capstone experiences	
Students complete assessment task: Capstone experience reflections and presentation (listed below under 'Assessment')	
Organise for students to present to First Year students (Science Understanding – SC1101); invite industry/employer guests	
Assessment	Resources
Capstone experience reflections and presentation	Capstone experience Assessment.doc

Major Core Subjects

» AQ3015, MB3050, BZ3220, BZ3225, BC2023, CH2101, EA2006, MA2100, PH2002

Learning and Teaching Activity	Resources
Present 'Future Work skills and knowledge and the hidden job market'	1. Future Work skills and knowledge and the hidden job market.pptx
Students complete self-directed study: JCU Career Development Program module	2. Seeking Graduate Opportunities module
Encourage students to engage with professional online networks (Facebook, LinkedIn, Twitter, blogs, YouTube, TED, etc.)	
Lead by example: show your online presence (LinkedIn profile and google your name) Ask students to give you on the spot feedback	
Recommend students join discipline-specific professional associations/organisations as student members	
Post links to student services on LearnJCU	3. JCU Careers and Employment 'Students' webpage 4. GoinGlobal 5. Big Interview 6. Epigeum: skills and attributes for careers success and developing an entrepreneurial mindset (not yet available)
Provide links on LearnJCU to: <ul style="list-style-type: none"> • Discipline-specific industry/employer/government websites • LinkedIn profiles of sector leaders • Professional associations and organisations • Career-related generic and discipline-specific artefacts (e.g. research articles, real world stories, YouTube videos) 	
Organise a careers workshop tailored to the Major - invite industry/employers/alumni to attend on the panel	7. Exemplar 1: Kate Hutson.doc 8. Career Workshop.pptx
Offer support for job applications AND/OR refer students to JCU Careers and Employment (free resume checks, career counselling...)	9. JCU Careers and Employment 'Students' webpage

Organise students into small groups to discuss their work experiences and discipline-specific/generic skills, knowledge, attributes and dispositions	
Students complete assessment task: Final e-Portfolio (listed below under 'Assessment') Encourage students to record professional memberships and connections in their e-Portfolio	
Students set up a free alumni account to access their e-Portfolio after graduation	10. Activating a free alumni account
Assessment	Resources
Final e-Portfolio	11. e-Portfolio Assessment.doc

Optional Core Subjects

» AQ3002, AQ3003/AQ3007, MB3210/MB3160, MB3190/MB3270, BZ3061, BZ3230/BZ3001, BZ3745, BC3102, BC3201, CH3102, CH3103, EA3330, EA3110, MA3605, MA3201, PH3008, PH3019

Learning and Teaching Activity	Resources
Highlight subject-specific LinkedIn groups, channels and influencers (utilise Twitter, YouTube, LinkedIn, Facebook, blogs) Encourage students to 'join'/'follow' leaders in their fields of interest and contribute to online discussions	
Lead by example: show your online presence (LinkedIn profile and google your name) Ask students to give you on the spot feedback	
Profile a discipline-specific job or job advertisement each week (YouTube is a powerful tool); AND/OR Invite employers/graduates to be guest speakers Provide guidance to the guest speaker: share a typical day's work, career experiences, tips for career success, discipline-specific career advice Provide speakers with information about the subject (Learning Outcomes, Assessments) to help them to relate their work to the subject	
Students complete self-directed study: JCU Career Development Program modules Allocate 5-10 minutes of class time for students to discuss the modules AND/OR establish Discussion Board threads for each module	1. Teamwork module 2. Effective Workplace Communication module
Provide links on LearnJCU to: <ul style="list-style-type: none"> • Discipline-specific industry/employer/government websites • LinkedIn profiles of sector leaders • Professional associations and organisations • Career-related generic and discipline-specific artefacts (e.g. research articles, real world stories, YouTube videos) 	
Establish a Discussion Board thread for students to share and discuss career/work-related information and topics	
Assessment	Resources
None	